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A COMPREHENSIVE AND LONG RANGE ATTACK ON THE DROP-OUT PROBLEM PRE-SCHOOL AND PRIMARY EDUCATION PROJECT

PROGRESS REPORT
July 1, 1963–June 30, 1964

Conducted
for the

COUNCIL FOR THE HUMAN SERVICES
COMMONWEALTH OF PENNSYLVANIA
Harrisburg
1964

By

Department of Public Instruction	Department of Public Welfare	Department of Health

WILLIAM W. SCRANTON, *Governor*

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A COMPREHENSIVE AND LONG RANGE ATTACK ON THE DROP-OUT PROBLEM
PRE-SCHOOL AND PRIMARY EDUCATION PROJECT
Progress Report
July 1, 1963 - June 30, 1964

This paper will describe the progress, activities, and plans of the Pre-School and Primary Education Project during its first year of operation.

PREFACE

I. Introduction

The Pennsylvania Pre-School and Primary Education Project has been labeled at various times a research, demonstration, experimental-pilot, and developmental project. All of these terms are correct and incorrect at the same time.

Originally, the intent was to spend a year learning about the relevant characteristics of the behavior of a selected group of so-called culturally disadvantaged children. These data would be the basis for designing a different educational program which would be used in the second year. Evaluations of this program would be made each year during the remaining five years of the project, each leading, in turn, to further improvements in that program.

This pattern would be replicated in seven additional schools beginning in year two. The field testing of the originally-designed program would enable the staff to develop modifications to fit the differences that could be noted in rural, suburban, and urban minorities, by different racial and ethnic groups. Only after the program had been developed and evaluated would it then be demonstrated and disseminated.

This report indicates that the plan has been followed only in part.

There are two major deviations from the original pattern: The gathering of data about the characteristics of the children will continue to be the major focus of the second year; hence, all other aspects of the project will be moved back one year. The culturally-disadvantaged children from rural areas will be underrepresented in the total project; urban children will be overrepresented.

The difficulty of launching a statewide project of the magnitude described in the original proposal is the primary cause of the alteration of the yearly schedule. In addition to the constant bureaucratic problems of administration and communication there was added the difficulty of obtaining research persons for the project. University personnel who were competent were reluctant to travel throughout the state to conduct the pre-tests needed for year two; most of the applicants for full-time positions frankly admitted they preferred more ideal research conditions. The make-shift arrangements for the testing and keeping of appropriate records has produced some data but even the most elementary conditions for appropriate procedures and controls could not be met. As a result, the term "trying out" has been substituted in this report for the term "experiment".

If state agencies are to undertake projects like this one, it is already very clear to the staff that some new arrangement must be found to enable them to attract research persons. State departments are established primarily to operate administrative programs; research persons in the behavioral science fields will not tolerate, nor should they, the administrative and organizational impediments that appear to be part of bureaucratic living.

Evaluating multi-faceted programs like the Pennsylvania project requires more highly competent specialists than are needed for the typical small-sample, highly-controlled research project. These two requirements call for more imaginativ organizational adjustments than Pennsylvania or any other state has yet found.

The second alteration has resulted from the economic facts of life. Rural school districts are, by and large, smaller districts, and the kind of school sought for the project meant that one, two, or even three mills' tax increase would be required to raise even $5,000. In the future the small, rural area is going to need additional financial assistance if it is going to be expected to take its place in projects of this kind.

In spite of these handicaps, the project already has demonstrated that representatives of the fields of education, social welfare, and public health not only can cooperate well on the problems of the education of culturally disadvantaged children but can become very enthusiastic about such efforts. Furthermore, the old story of the value of an interdisciplinary approach to problems is reinforced; the project teachers and the caseworkers report they have learned much from each other.

The greatest single lesson, even from the first year of this project, however, is the unmistakable fact that state agencies can take the leadership role in improving human services. In fact, the Pennsylvania project, marshalling as it has the resources of universities, state agencies, and local community agencies, may indicate that state level coordination is the most desirable pattern for programs such as those now being propagated under the War on Poverty.

II. Background

In October, 1963, the Centennial Joint School District in lower Bucks County became the first public school district in Pennsylvania to organize a class for children who were a full year younger than those eligible for kindergarten. In July, 1964, six more districts will begin similar pre-school classes as part of a statewide effort to improve the educational performance of children from disadvantaged environments. These districts (Aliquippa, Chester, Erie, Pottstown, Harrisburg, and German Township, together with the "Hub" School in the Centennial District) will be enrolling 320 children and their families during the second year of the Pre-School and Primary Education Project. Within four years, over 1,300 children, ranging in age from $3\frac{1}{2}$ to 9 years, will be enrolled in eight school districts in the Commonwealth.

The project, partially supported by a grant of $470,000 from the Public Affairs Division of the Ford Foundation, is funded, in addition, by participating school districts and cooperating state agencies. The principal state agencies cooperating in the project are the Department of Public Instruction, the Department of Public Welfare, and the Department of Health. The work of these departments is coordinated through the Council for Human Services of the Commonwealth of Pennsylvania, which was created in 1963 by Governor William W. Scranton to foster and expedite interdepartmental programs.

Structurally, the Pre-School and Primary Education Project is involved in two different types of program sequences. One program sequence, conducted at the "Hub" School in the Centennial Joint School District, involves a full year pre-school program for 40 children at chronological ages 3.7 to 4.6. This program will be articulated with subsequent kindergarten through third grade programs carried on during the normal school year. The Centennial program does not involv summer classes.

The program sequence for the "summer schools" involves a continuum of three successive summer experiences beginning in the summer of 1964 with a pre-school nursery and following with pre-kindergarten and post-kindergarten classes. In the fall following the first summer experience, intensive follow-up work will be conducted with project parents by the project child's summer teacher. Succeed summer programs will be articulated with kindergarten through second grade progra Every year, in both the "Hub" School and summer programs, a new group of nursery age children will be phased into the project.

III. Objectives

A four-fold strategy to improve the education of culturally disadvantaged children has been established:

1. To develop an educational program which compensates for certain specific behavioral deficits of the children from culturally disadvantaged environments.
2. To improve the educational preparation of teachers and other professionals who are presently serving or will serve the culturally disadvantaged child.
3. To develop more effective relationships between health and service agencies and the schools so that they can serve better the children and the parents of families living in culturally disadvantaged neighborhoods.
4. To change the attitudes and behavior of parents so that they will exert a positive influence on the educational development of their children.

The definition of this strategy in seven school districts has been the principal preoccupation of the first year's operations.

EDUCATIONAL PROGRAM

I. Planning and Development

A basic tenet of the project is that children from disadvantaged environments evidence initial academic deficits upon formal entry into regular school experiences. Increasing research into the nature of these deficits has established four areas of concern: perceptual, language, and cognitive deprivation, either caused by or resulting in a lessening of self-image. Accordingly, a major effort of the project has been to develop an educational program which, while compensating for these deficits, will increasingly foster successful school experiences. With four more years remaining in the project, it has been the intention of the project personnel to formulate a curriculum during the first year that could be "tried out" and evaluated during the second year. Based upon this evaluation, curriculum would be redefined for the third year. This process of demonstration and evaluation will be continuous in all project schools for the duration of the project.

The formulation of curriculum for the second year has proceeded in three directions: first, the gathering of descriptive and comparative data on the project children; second, the development of a framework of objectives within which a program can be defined; and third, the "trying out" and assessmen of a variety of innovations and practices in project classes. During the summer of 1964, the results and findings from these three efforts will be integrated and formulated into an explicit educational program to be "tried out" and evaluated in the pre-school and kindergarten classes at the "Hub" School next fa

A. Data Collection: Statistical

The gathering of sociological, economic, educational, and medical data on and from project families and children is and increasingly will b of assistance to the project staff in explicating the educational program for both the children and families served by the "Hub" School. Because so much of the literature on the so-called "culturally disadvantaged" child has been speculative, hortatory, and deductive, the project staff has been determined to document its own operational definition. The stereotyping of the disadvantaged child in terms of a large-city, slum, migrant Negro family is an ambiguous and not completely functional definition of disadvantagedness in the industrial towns, small cities, and coal-mining regions serviced by the project. Some of these areas have few (e.g., German Township School District) Negro residents, others are composed of a large percentage of white emigrants from Appalachia (e.g., Centennial Joint School District), while others have extremely stable Negro populations (e.g., Pottstown) whose geographical mobility differ considerably from similar families in large urban centers.

From the neighborhood serviced by the "Hub" School, descriptive data have been gathered from a variety of sources. A survey conducted by Temple University showed, for example, that the residents are primarily Caucasian with 40% coming from the general Philadelphia area, 45% from the coal-mining regions of the Commonwealth, and 15% from the coal-mining and mountainous districts of Kentucky, West Virginia, and Tennessee. The project families are large (about 4 children per family), primarily of Protestant denomination, poorly educated (lacking any parents having completed high school), with better than four out of five families having income below $100 weekly, and predominantly employed in unskilled and semi-skilled occupations. Half of the project families have been known to the Department of Health, and almost 30% to the Office of Public Assistance. The project caseworker estimates that one-third of the project families require on-going work services.

The "Hub" School is located on the western end of a former government housing project consisting of 1,160 family units. Reports from local authorities indicate that the families in these units comprise only 14% of the total school district population, yet contribute 50% of all school drop-outs and illegal absences, approximately 60 to 70% of all police service and ambulance calls, and 80 to 85% of all disorderly conduct calls to local police. Almost half of the children sent to correctional schools from the district came from the "Hub" School area. The Temple survey, conducted in 1962, indicated a high percentage of illness in the project school area. In addition, the survey indicated that the residents felt a high degree of hostility and rejection directed toward them from the larger community.

That the children attending the "Hub" School should be affected by this impoverished background is not surprising. Sixty-one per cent of the children in the district's educable classes come from this area, while only 1% of the children in accelerated classes come from the "Hub" School. When the children from the "Hub" School are integrated at fourth grade with students from the district at large, almost all of them invariably end up in the lowest ability grouping and the pattern is sustained into the remaining intermediate grades. Standardized tests administered in the primary grades document intellectual deprivatio and basic skill retardation of project school children. The average I.Q. of the first and third graders at the "Hub" School on these tests was shown to be between twelve and fifteen points lower than the combined average I.Q. of the first and third grade children attending the six other elementary schools in the district. "Hub" School children are, on the average, one-half grade retarded in reading, arithmetic, and language achievement at first and third grade levels as measured by standardized achievement tests.

Although some systematic assessments were carried out during the year with project children to obtain more precise data on their educationa disabilities, the analysis of this data as well as that from other project schools will be reported at a later date. The Peabody Picture Vocabulary Test, the Columbia Mental Maturity Scale, and the Illinois Test of Psycho-Linguistic Abilities were used with all project children but control conditions limited the usefulness of the findings to the project school itsel

Future plans call for a broadly-scoped testing program, commencing in the summer of 1964, to be carried out in five project schools and in the "Hub" School during the early fall.

With the participation of Associate Professor E. Kuno Beller of the Department of Psychology of Temple University, a two-fold plan of testing and observation has been planned for the first summer. In two school districts (Harrisburg and Chester) intensive testing of project and control children was undertaken prior to their entrance into the summer nursery pre-school. This initial test battery included the Illinois Test of Psycho-Linguistic Abilities and the Children's Thematic Apperception Test. In two other school districts (Pottstown and Erie), pre- and post-testing are planned for all project children to gauge the effects of a six weeks' nursery pre-school experience. During the course of the summer schools, observational study will be carried out by Doctor Beller and his associates, with the aim of exploring relevant variables in the behavior of children and the teacher's handling of the children. The data obtained from this testing program will be interpreted and applied to curriculum development planning during the 1964-65 school year as part of the reformulation of curriculum design to precede the 1965 summer school experiences. Testing undertaken in the "Hub" School during the fall of 1964 will be fed into curriculum reformulations for the following school year.

It has long been recognized that there is a relationship between social class and health. The relationship is particularly clear in the areas of maternal and child health. During the first year of operation, extensive pediatric examinations were undertaken with project children from the "Hub" School and a control group of operationally-defined advantaged children (Hollingshead Class I and II with the additional requirement that both parents have finished high school). The design of these examinations (reported in a separate project publication) permitted the project staff to collect comprehensive prenatal, neonatal, nutritional height-weight, immunization, developmental-motor, dental, historical, hospital, and other pediatric data on children from two different social class environments.

Preliminary findings seem to collaborate previous studies which indicate that disadvantaged mothers begin prenatal care later and sustain it less; that their children fall more often below the developmental norms for height and weight; that fewer disadvantaged children have adequate immunization records than advantaged children; and that disadvantaged children have more dental, speech, and vision defects than their opposite number. Over twice as many referrals to physicians had to be made with the disadvantaged project groups as with the control group. Plans to continue examinations and treatment of project and various control groups have been made for the early fall of 1964. Eventually, it is planned to extend these examinations, together with the treatment of certain physical health handicaps or problems of chronic nature that are of congenital or acquired etiology, to all project districts.

B. Data Collection: Observations and Impressions

Another form of data collected during the year have been the observations and impressions of project staff members on a variety of behaviors manifested by the project children in the classroom. The observations were not systematically reported (anecdotal cards being the principal method of recording) and the impressions were elicited from the staff primarily by interviewing.

The academic disabilities commonly associated with cultural deprivation were not so observable nor so easy to detect as many of the staff had believed they would be. The project children did not appear to lack word productivity nor the ability to label, even though the staff attempted to systematically assess their behavior in these areas. Project teachers did note, however, some deficiencies in listening behavior and a tendency for the language of the children to be colorless and sparse in adjectives. In addition, staff members commented on the fact that, while the children knew few of the traditional nursery rhymes, they appeared more knowledgeable than would be expected about the lyrics and tunes of popular songs. Impressions of perceptual behavior failed to provide any clear-cut clues of deficits. In the area of cognitive functioning, comment was made that the project children appeared underdeveloped in their ability to see cause and effect or to derive logical outcomes. A sidenote of interest, somewhat reminiscent of the experiences of Sylvia Ashton-Warner in New Zealand with Maoris children, is the observations made by several staff members that the project children seemed unusually responsive to words having sexual coloring (e.g., kiss, girdle). It is, however, idle to speculate on this data before undertaking more systematic investigation.

Of more importance to the staff were the impressions they had of the personal and social functioning of the project children. The following is an abbreviated listing of the characteristics around which there was staff concensus:

1. A tendency toward destructiveness or heavy-handedness with materials and equipment in the classroom. Along with this a casualness bordering on indifference in the aftermath of the breakage.

2. A tendency of the children not to share with others nor to sympathize with classmates.

3. A somewhat exaggerated moodiness that ranged from depression to euphoria.

4. A high degree of family loyalty, especially in relationships with siblings.

5. A lack of concern for, in some instances, and a confusion about, in other cases, authority as represented by the teache

6. A high degree of difficulty in initial adjustment to school. Separation problems were quite common.

7. The often-cited existence of spontaneity or warmth in children from deprived backgrounds was not noted in the observations of the staff.

8. No significant observations nor impressions which would indicate poor "self-image" or lower levels of confidence or feelings of worth in the project children.

9. Lack of concern for finishing a task or project. Easily distracted.

None of the above observations and impressions could be attributed to all project children and, as with most generalizations, caution and qualific tion are probably indicative of the better part of wisdom. It should be noted, finally, that the staff does not yet know whether the project childre represent typical or atypical lower-class populations.

C. Formulation of Objectives

While knowledge of the child and his background is vital in any educational undertaking, the project staff early in its deliberations recognized a corollary need to establish a framework of objectives within which an educational program would be formulated. What we know of the child provide as it were, a field to be cultivated, but to what ends it should be planted is a matter of defining one's aims. During the first year, therefore, the project staff, with the assistance of Doctor Robert Smith of the School of Education at the University of Pittsburgh, drew up various statements of objectives. By the end of the school year, the staff had reached a point where it had catalogued and specified many of its objectives under the following classifications:

Development of Skills Associated with Verbal Communications
Aesthetic and Creative Development
Social Development
Personal Development
Intellectual Development
Perceptual-Motor Development and Physical Fitness

Included in this first formalized statement of objectives was an initial listing of activities and teaching considerations which related to each of the various objectives. For example, one of the objectives listed in the section on verbal communication was the desirability of expanding the child's vocabulary so that growth in concepts and in meaning of words could be developed. Noted alongside this objective was advice to the teacher on how to provide opportunities to practice and experiment with new words and expressions in different settings, how to illustrate similarities and differences in the meaning of words, planning experiences outside the school and encouraging children to ask questions. During the summer of 1964 the project staff plans to add to this enumeration of program and activity considerations additional suggestions stemming from the experiences over the past year at the "Hub" School.

D. Review of Practices and Innovations at "Hub" School

These experiences of "trying out" a variety of innovations and practices have been both intensive and specific, and wide-ranging and exploratory. The staff has concentrated at certain periods on such definite characteristics of the children's verbal behavior as the ability to label objects, people, toys, and equipment correctly, to use verbs precisely in noting sequences and interactions, and to speak clearly in complete sentences. Concern for the perceptual skills of the project children led to a utilization by Doctor Henry Ray, Director of Teaching and Learning Resources in the Centennial Joint School District, of slides to foster improved visual discrimination and auditory responses. With the assistance of Doctor Albert Kaplan, Psychiatric Consultant to the Bucks County Schools, the project staff attempted to probe into deeper levels of understanding of the deviant behavior of some project children. The project teacher at the "Hub" School, Mrs. Anne Creamer, has, during the course of the year, maintained continuous anecdotal files recording significant behaviors of the project children, along with some developmental changes that have occurred. In addition, she has developed several units emphasizing ways of exploiting a variety of learning experiences for important cognitive, perceptual, and linguistic purposes.

From their classroom experiences over the past year, the project teachers emerged with some fairly tentative ideas as to practices and procedures that should be tested in the coming school year. Some of these ideas are suggested as follows:

Observation	Initial Inferences	Suggested Teacher Practices and Procedur
Destructiveness and ineptness with classroom materials.	Unfamiliarity with these materials; children over-stimulated by rich classroom environment.	Slow and gradual introdu tion of classroom materi
Relative failure of children to share or sympathize.	Hostile community environment.	Increased emphasis on socialization activities.
Inability to work productively in "permissive" environment of classroom.	"Self-direction" not fostered in home.	Provide more structure in classroom.
Inability of children's parents to maturely discuss child's problems. Inconsistent disciplinary practices.	Lack of parental knowledge and skill.	Increased work with paren
	Distraction of other problems.	Planned parental educatio programs.

II. Summary and Future Plans

In summary then, the project staff has, over the past year, collected and analyzed a wide assemblage of data on the project children, their families, and the community. They have worked through various delineations of objectives until a more workable framework was formulated. Finally, they have begun the process of meshing the data collected on the children, the objectives defined, and the educational practices that appear to have worked out best, into an explicit educational program design.

Future plans include consideration of the following problems and questions which arose during the preceding year:

1. How can curriculum be specified when there exists a wide diversity of both deprivation and achievement among project children?
2. What types of organizational structures will best foster the continued growth of project children?
3. How should value conflicts and differences be reconciled in both curriculum programming and instructional strategies?
4. What types of "feedback" are needed in order to intelligently reformulate curriculum designs?

TRAINING OF PROFESSIONALS

I. Scope

The improvement of the educational preparation of teachers and other professionals who are serving or who will serve on the project is, perhaps, the most important single ingredient in bettering the opportunities of disadvantaged children. Before the project is terminated, the staff will be involved in the direct training of over 30 teachers, an equal number of teacher aides, 8 project coordinators, and at least that number of social caseworkers. Because the project will affect other areas of the school program and will affect, therefore, teachers not directly associated with the project, many other teachers will be engaged in various components of the project's training programs. In addition, the plans of various project districts to recruit additional volunteer aides will require specialized training programs. The involvement of colleges and universities in the Commonwealth in the placement of student teachers in project districts will call forth imaginative and focused considerations of traditional preparational programs. Perhaps, however, the re-education of the hundreds of agencies that will eventually be involved in one manner or another with the project will requir the most extended and challenging of training assignments.

A. 1963 Workshops

During the summer of 1963, a workshop for project personnel was conducted at the College of Education, Temple University. The focus of the workshop, which was conducted by Doctor Gabrielle Faddis, Assistant Professor of the Department of Early Childhood Education at Temple University, was on updating the preparation and enhancing the effectiveness of personnel who were and would be working with pre-school children from disadvantaged backgrounds. Content covered included examinations of various theories of child development, the sociology of deprivation, considerations of specific features of language and intellectual development in lower- and middle-class children, preparing materials and activi for a nursery school program, communicating with disadvantaged families, and a variety of information on facets of research and school operations related to work with disadvantaged children.

During the early fall of 1963, project personnel were involved in a workshop centered on facilitating the treatment of problem families. Organized by Community Research Associates, the workshop gave extensive attention to the development of concepts and procedures for the diagnosi of family problems, classification of these problems, selection of treatment procedures, assignment to responsible agencies for treatment, and the evaluation and accountability of the prescribed treatment. Probably the greatest value of this workshop to the participants was in assisting them to focus on a multiplicity of factors affecting child development. In addition, the staff received help in systematically analyzing and organizing vital family information.

B. Consultation and Visitations

Over the course of the preceding year, several institutions provided assistance and advice on many aspects of the pre-school program. In addition, the project staff through planned visitations, saw a variety of pre-school programs in operation. The Bucks County Public School Office was especially helpful in making available many specialists from their central staff. Aid in program development was provided by the Institute for Developmental Studies through periodic staff conferences with Doctor Martin Deutsch and his associates. Consultation with faculty members of Temple University, The Pennsylvania State University, Western Reserve University, the University of Pittsburgh, and Cabrini College was helpful in providing needed program perspectives. Staff observation of pre-school programs at the Bank Street College of Education, the Institute for Developmental Studies, the Baltimore Early School Admissions Project, and the experimental nursery program in Philadelphia introduced some enlightening insights into a variety of practices and procedures with pre-school children. These experiences were in the truest sense educational for they gave the staff ideas, knowledge, and insights at the very time the staff needed and could make use of this information.

II. 1964 Summer Workshop

Preparations for an intensive two-week workshop to orient second year project personnel began in April of this year. Under the leadership of Doctor Evangeline Ward, Assistant Professor of Education in the Department of Earl Childhood Education at Temple University, the project staff planned a comprehensive practicuum to be undertaken at the "Hub" School while one of the "Hub" Sch classes was in session. This allowed the new teachers to both observe a progra in operation and to develop some understandings of a child's school functioning The program covered several facets of child development such as physical, socia conceptual, language, and personality development in some depth, while at the same time sensitizing teachers to the many ways discrete components of developm could be guided and encouraged. Teachers received training on how to observe and record child behavior and how to develop programmatic materials, and were given a wide assortment of suggestions on the practical aspects of conducting a nursery program. Interlaced with this knowledge of child development and practical considerations, seminars and discussions were planned around such topics as working with community and family, characteristics of the disadvantag child, and self-understanding on the part of the teacher as a vital ingredient in teaching success. Although the workshop was primarily oriented toward project teachers and teacher aides, local project coordinators and project caseworkers were invited to attend certain sessions. An outline of the worksho program is shown in Appendix B.

III. Future Plans

Present plans call for a workshop focused on the health, welfare, and education needs of project families early in the fall of this year. Among the topics to be considered will be:

Role Definitions for Caseworkers and Teachers in Working with Project Parents

Collecting and Utilizing Information on Home and Neighborhood Conditions

Agency Coordination in Diagnosing and Treating Project Families

Ways to Reach Parents Through Person-to-Person Contacts

Increasing Perception and Competency in Working with Project Families

Ways of Assisting Parents with Their Children

Planning Programs and Services for Project Parents

As planning proceeds for the training of project personnel, it is becoming increasingly evident that there is a wide gap between the availability and supply of qualified personnel experienced in working with disadvantaged pre-school age children and their families. Furthermore, the increasing redefinitions of professional roles in working with disadvantaged clientele will expand this gap unless intelligently conceived and ambitiously implemented plans are formulated. A concern of the project staff then, will be around the question of how to establish firm institutional bases to provide the necessary preparatory and in-service training for professionals working in disadvantaged environments.

Related to this need is that of gaining more knowledge than we presently have of the characteristics of successful professionals. The recruitment and selection of candidates for future training programs should proceed from information as to what types of individuals are most likely to succeed in the project. The difficulties of engaging in the research necessary to describe such individuals are evident: foremost are problems of definition, instrumentation, and criteria. Nevertheless, the staff will, over the next year, be engaged in devising ways of obtaining valid information on relevant characteristics and behaviors of professional personnel.

DEVELOPING COMMUNITY SERVICES COORDINATION

I. Rationale

Substantial evidence has been accumulated to document the fact that a lower level of physical and mental health exists in disadvantaged areas than in more advantaged climates. Not only are children and their families in disadvantaged neighborhoods less well nourished, more susceptible to illness, and subjected to more mental and emotional stress than others, but there is, at the same time, a lack of adequate school health programs, local health and welfare agency coordination around -- and parental and community recognition of -- thes problems. A major objective of the Pre-School and Primary Education Project, therefore, has been to develop more effective working relationships between and among the several community institutions and agencies having responsibilities i these areas of child welfare services. The project staff has hypothesized that if earlier and more sustained attention is given to the treatment and preventio of physical and mental malfunctioning, the disadvantaged child will perform more successfully in school. Secondly, the project staff has premised that a favorable educational climate in the disadvantaged home will more likely be realized when the health and welfare needs within that home are more adequately met.

The formulation of the welfare component of the project has, during the first year, rested in good part on the role definitions explored by the project social caseworker. Four basic areas were explored; these were research, teachi direct casework, and involvement of community organizations.

A. Developing Common Reporting Instrument

It became evident early to the staff that if local health and welfa agencies were to become meaningful participants in the project, the efforts of these agencies would have to be directed toward tasks of common concern. With the assistance of Community Research Associates, the staff decided to focus these efforts on the construction of a common reporting instrument. The purpose of this common reporting instrument, which was viewed initially as the key in the project's preventative approach, was to provide a basic methodology which would guide diagnostic formulation and planning of the educational and welfare components of this project. It became clear in the early stages of the project staff's orientation to this approach that the basic working method being suggested assumed both an understanding on the part of the project participants of what services other agency participants offered, and second, that the relationships of various agencies to the project had been clarified. Unfortunately, both assumptions proved unwarranted. In addition, there was a lack of unanimity on the part of the project participants as to the usability of the basic working documents that were being developed.

B. Team Meetings with Health and Welfare Agencies

Because of this the project staff decided to reorient its efforts with both local agencies and school personnel. It was hypothesized that if we were to learn about and understand each other's approach, this could best be accomplished by frequent and regular team meetings focused on specific project family cases. The project caseworker, Mr. Terry Dellmuth, undertook, therefore, to arrange weekly meetings involving community agencies and school people. From these conferences, which depended in good part on the data obtained both directly by the caseworker from project families and on that volunteered by cooperating agencies, the agency involvement aspect of the project gradually began to take on a variety of concrete shapes. Problems and possibilities in referrals were discussed and, in several instances, effective channeling of project cases proved invaluable in preventing, or at least slowing down, the deterioration of family situations. The development of "on-the-spot" services was investigated by many agencies, with the Bucks County Family Service Association actually moving into the project school building during the year to offer casework services to families in the "Hub" School area. In addition, agency and school personnel learned to work together in a more coordinated and sympathetic fashion than heretofore. Finally, most of the participating agencies have assisted the caseworker in identifying potential future families for the project.

While this brief listing does not do justice to all the many specific ways in which agency representatives, teachers, guidance personnel, and school administrators have learned to collaborate, it does indicate to the project staff the necessity in our other project areas of taking an inductive rather than deductive approach in working with community agencies. At one time or another, more than twenty different agencies in and near Bucks County (see Appendix A) have participated in some phase of the project. A baseline of empathy and understanding has been established upon which more ambitious cooperative ventures can be attempted.

C. Agency Limitations

In viewing the possibility, however, of deepening the level of services offered to project families at the "Hub" School and initially mobilizing community resources in our new project districts, certain problems endemic to child welfare services in the Commonwealth are certain to be present. Financial limitations, for one, have hampered agency cooperation at the "Hub" School and along with this factor is the critical understaffing of most agencies, which precludes their providing even minimal services to high priority families. In such a situation, it is unrealistic to expect understaffed agencies to expand their efforts to include preventative work and casework services to children in their own homes. Furthermore, variations in ability to work with the project will certainly be evidenced among the six counties joining the project. Unevenness in the availability of necessary services is evident among the counties in terms of such factors as the number of county child welfare personnel, number of Community Chest and United Fund agencies, and the number of public and private child-caring agencies in relation to the needs for these services in the several counties.

But perhaps more significant in impeding more meaningful services to disadvantaged families in our future project areas is not only the uneven distribution of services and the financial and staff handicaps of agencies but also the lack of knowledge and the outdated concepts prevalent on how best to work with the critically deprived family. A recurrent theme in discussions during the year has been, "Do we really know how to work with these kinds of problems?". How well the project staff can assist local health and welfare agencies in answering this question will, in good part, determine how much the level of services provided to project families is improved.

D. Increase Casework Services

An important step forward in bringing about a higher level of community agency cooperation was the decision by the Department of Public Welfare during the year to provide full-time caseworkers for each of the new project areas. Originally, the Department had committed itself to summer intern caseworkers but with the increasing realization on the part of the Department's leaders of the need to both formulate clear policy guidelines for assuring equitable and adequate family and child welfare services and to establish the appropriate mechanisms, procedures, and programs to carry out these policies, a new framework for Public Welfare involvement was devised. The recruitment of project caseworkers is presently under way.

CHANGING AND IMPROVING THE PARENTAL ROLE

I. Need

Mentioned earlier in this report was the need for building a favorable educational climate in the home through attention to the health and welfare needs of the disadvantaged family. Clearly related to this need is the attenti that must be given to obtaining the help and cooperation of parents if the scho behavior and performance of their children is to be changed. Involving the disadvantaged parent requires, as Patricia Cayo Sexton states, " . . . much more than written invitations or a sharp complaining phone call from the principal about their child's behavior." Many families with whom the project has already worked and, undoubtedly, many families now coming into the project, were not and are not aware of how to actively participate in the educational development of their children. Yet the effect of a parent's attitudes and behavior on a child's subsequent behavior in school has been documented by researchers both in education and allied fields.

Over the past year, project parents produced a variety of impressions upon the staff. As was expected, the parents proved to be unfamiliar with school routines and disturbed by such procedures as medical examinations. Initially hostile and suspicious, many of the parents, however, were definitely motivated to have their children take part in the pre-school program. Many children continually attended school in their best clothes despite the fact tha the teacher informed parents that less dressy clothes would be more suitable. Later, several of these parents complained how dirty their child got in school.

The desire to have their children do well in school was also evidenced in the willingness of many parents to have the teacher physically punish the child if a behavior problem occurred. At home, disciplinary practices were mos commonly observed to be inconsistent. Although most project parents appeared overwhelmed with duties and the care of their many children, several would often volunteer to assist the teacher in such matters as school laundry. One reasonable inference from this limited data might be that many project parents lacked the knowledge of how to make their aspirations for their children operational. By middle-class standards, their efforts often seemed awkward.

A. Individual and Family Casework Contacts

At the "Hub" School, several approaches have been employed in attempting to answer the question of how to develop better ways of influencing parents to adopt a more positive and effective role in preparing their children for and sustaining them in school. One approach has been through the casework contacts of the project's social caseworker. In encouraging parents to identify with the school by working with individual, family, and marital problems on a day-by-day casework basis and by obtaining food, clothing, or services when needed by project families, the caseworker has probably, at the very least, made the parents' attitudes toward the school more favorable. Similarly, the local project coordinator, with her intimate knowledge of family needs and community resources, has been responsible for sustaining several families in the project. Finally, as indicated in the preceding section, many local health and welfare agencies have effectively intervened to assist families with varied economic, interpersonal, health, familial, and emotional problems. In short, one approach used intensively at the "Hub" School has been that of the individual or family casework contact.

B. Parent Meetings

Another approach employed by the "Hub" School personnel has been by way of parent meetings. Organized and arranged primarily by the local project coordinator, Mrs. Ruth Roberts, these meetings were conducted monthly during the year. The subjects and projects undertaken at these meetings varied widely as the project staff consciously "tried out" new ways to bring parents to the school and to have an educational impact on them when they did attend. At several meetings, discussions were conducted on such topics as children's books and toys, understanding four- and five-year-old children, the importance of listening to children and appreciating the child's accomplishments at school. Parent participation in renovating an unused housing unit at the "Hub" School was encouraged, as was involvement in working on "experience" books for their children. Through this group approach the project staff not only hoped to affect the role parents would assume with their children but also the role the parents would increasingly take with the school.

C. Parental Programs of Other Agencies

Closely related to the group approach with parents undertaken by the "Hub" School personnel were similar efforts undertaken by local organizations with the encouragement and assistance of the project staff. The YWCA in the "Hub" School project area provides a good illustration of what imaginatively conceived and conscientiously implemented programs can accomplish. The "Y" services all age groups in the project area and over the years has developed several programs oriented toward parents. Parent classes in sewing, cooking, first aid, rug making, and ceramics have been offered. Trip programs involving whole families have been taken to places of historical and cultural interest in the Philadelphia metropolitan area. Presently the directors of the YWCA are discussing the establishment of a "Reading and Discussion Group for Young Adults". Efforts such as this, which focus on the specific needs of parents by providing a wide range of opportunities for self-improvement as well as activities geared to strengthening home and family life, may in the long run prove to be one of the more important and lasting side effects of the project.

D. Effect of Programs

Although there is much evidence to attest to the influence of the above approaches on several parents, the sad fact remains that many parents are relatively untouched by these efforts. Seldom has the project staff been able to induce more than half of the project parents to attend any single parent meeting. Almost one-third of the parents have never attended any parent meeting despite persistent encouragement from staff and neighbors. Finally, very few of the project parents have taken advantage of the opportunities offered by local agencies. That this is so is not surprising to anyone who has ever worked in underprivileged areas. The obstacles which have to be overcome in order to achieve closer school-home relations are legion, and the project staff is fully cognizant of both the need to diagnose individual family situations and needs in greater depth and, at the same time, to "try out" a variety of new practices with the hope of better enhancing school-home interaction.

II. Team Design in New Project Districts

In the six school districts joining with the project this summer, responsibility for working with project families will center, even more intensivel than in the "Hub" School, on the teacher, social caseworker, and local project coordinator. A better idea of the types of responsibilities required of the summer project teachers can be seen by tracing the typical project teacher's work cycle for the next two years with the same 40 children as follows:

Time Period	Program	Teacher Responsibilities
Summer, 1964	Nursery Program (6 weeks)	Teach 2 sessions daily (20 child in each session)
1964-65 School Year	Home Program (No school sessions for children)	Teacher works half-time with par and children at home
Summer, 1965	Pre-Kindergarten Program	Teach 2 sessions daily (20 child in each session)
1965-66 School Year	Kindergarten Program (Full Year)	Teach 2 sessions daily (20 child in each session)

Not shown in the above diagram is the involvement of teacher aides and other volunteers during the summer programs and, secondly, the continuation of the children into a third summer program with another teacher. However, what should be clear is the extent of the project teacher's home involvement following the first summer's pre-school nursery program.

The project staff is sensitive to the fact that changing and improving the parental role in disadvantaged environments is more deep-seated an undertaking than simply teaching parents to read stories to their children or to accompany them on trips to the zoo. While it is undoubtedly true that the homes of the disadvantaged are often educationally impoverished, it is also true that these same homes bear witness to economic, biological, and socio-psychological deprivation. Therefore, the project staff has assumed that if any meaningful educational impact on parents is to be realized, a team approach, exercised primarily by a close-working relationship of teacher and caseworker, must be employed. Though the staff has not yet defined the nature of this team approach, certain facets are evident at this point:

1. Information gathering on -- and diagnosis of -- project family functioning
2. Formulation of common and individualized (family) objectives
3. Role definitions and assignment of staff responsibilities
4. Orientation and training of staff and community resource people to problems and responsibilities
5. Periodic and systematic assessments of change in family functioning

NEW PARTICIPATING SCHOOL DISTRICTS

I. Rationale for Summer School Programs

The development of summer school programs in school districts joining the project in the second year was undertaken principally to meet the objection that establishing pre-school classes would be a costly venture. In addition, this approach has the advantage of using teachers and facilities during summer months. While the total direct expenditures in each project school district for the four years of project participation comes to about $25,500, the per-pupil cost of the project does not exceed $150. Should a district choose to continue on its own, following the termination of the Pre-School and Primary Education Project, its per-pupil costs could be as low as $107. Comparison with other special education programs clearly indicates that these per-pupil costs are not out of line.

II. Characteristics of New Districts

The selection of communities for the project depended, to a great extent, on the types of characteristics exhibited by each prospective community. It was hoped these would be broadly representative of those existent in many other communities. In short, the project staff wanted to see represented rural and suburban areas, small and medium sized cities, agricultural, manufacturing, mining, and diversified occupations, communities with different ethnic and racial compositions and those with wealth and income variations. The six communities joining the project this summer, to a large degree, exhibit these different patterns. The data in the succeeding paragraphs has been largely drawn and computed from the 1960 Census of Population and the 1960 Census of Housing.

The six project communities vary widely in population size and characteristics. German Township, a school district comprising several small towns in the southwestern portion of the Commonwealth, has 8,000 residents, while Erie in the northwest section of the state has close to 140,000 inhabitants. The nonwhite portions of the population range from a low of 10 per cent in German Township and 11 per cent in Pottstown to 43 per cent in Chester. The median number of school years completed by the 25-and-over adult population ranges from 8.8 years in German Township to 10.9 years in Erie.

Economically, the median family income ranges from $4,723 in German Township to $6,154 in Pottstown. Thirty per cent of the residents in German Township have incomes under $3,000, 22 per cent in Chester, 20 per cent in Harrisburg, 16 per cent in Erie, and 12 per cent in Pottstown and Aliquippa; the Commonwealth average is 17 per cent. As might be expected, 40 per cent of the civilian work force in German Township is employed in unskilled occupations and unemployment hovers between 12 and 14 per cent. Unemployment figures for Erie have varied between 8 and 9 per cent over the past year, between 3 and 5 per cent in Harrisburg and Pottstown, and between 7 and 9 per cent in Chester and Aliquippa. Unemployment among the nonwhite population in Chester is double that of the white population.

Chester, Erie, and Pottstown represent heavy manufacturing and industrial complexes with a high concentration of employment in durable goods industries. Aliquippa is almost entirely a one-industry town, with over 80 per cent of its manufacturing labor centered in one steel mill. Harrisburg's employment is primarily grouped in a variety of white-collar and governmental occupations while German Township encompasses towns where mining predominates. While the German Township area represents one of declining job opportunities, increases in governmental employment in Harrisburg have been largely responsible for overall increases in the labor force. Manufacturing employment appears to have stabiliz in Aliquippa, Erie, Chester, and Pottstown.

Some of the housing characteristics of the project districts are shown in the table below:

	All Households		Nonwhite Households	
	Housing Deteriorating or Dilapidated	Median Number of Persons perUnit	Housing Deteriorating or Dilapidated	Median Number of Persons per Unit
State	16%	3.0	---	---
Aliquippa	17%	3.4	30%	---
Chester	24%	2.9	38%	3.2
Erie	15%	3.0	69%	---
Harrisburg	14%	2.4	39%	3.3
Pottstown	8%	2.8	40%	3.7

Unfortunately, data for German Township was not available. Figures from communities in the German Township area indicate that between 19 and 27 per cent of all housing is either deteriorating or dilapidated, with close to 60 per cent of all nonwhite households falling into one or the other of these categories.

Preliminary examination of standardized test data in several project districts indicates a familiar pattern of early underachievement of children served by the project schools. At third grade, most children in the project schools surveyed are one-half to three-quarters of a grade level retarded in most areas of language and reading achievement. Data at fourth and sixth grade levels show this pattern of retardation continuing and starting to widen until most children at termination of sixth grade are at least one full grade level below achievement norms. More documented reporting on school performance of these children will be made at a later date.

Planning in preparation for the summer pre-schools began in most of the new districts in April. Selection of coordinators, teachers, and teacher aides was completed in May. Identification and selection of project and control groups for the summer commenced in May and continued through June. Arrangements for nursery school equipment and supplies, transportation, vaccinations, health and safety, clerical, and custodial needs and volunteer assistance were, for the most part, completed by the end of June. Placement of social caseworkers in the various project districts started in May and it is expected caseworkers will be assigned to all districts by the end of the summer. Intensive testing was undertaken during June in Chester and Harrisburg, with about 80 children tested in each location. Six teachers and six teacher aides attended a two-week workshop, described previously, during the last two weeks of June. Coordinators and caseworkers from the various projects attended several of the workshop sessions.

The project now enters its second year. With this report of progress largely defining areas of future exploration, it can be expected that subsequent reports will be more historically revealing and firmly documented.

APPENDIX A

COOPERATING AGENCIES AT THE "HUB" SCHOOL

1. Abington Hospital Social °Service Department
2. Bucks County Board of Assistance
3. Bucks County Juvenile Court
4. Bucks County Mental Health Society
5. Bucks County Psychiatric Center
6. Bucks County United Services Federation
7. Catholic Charities
8. Centennial Dental Clinic
9. Coordinating Council of Warminster
10. Family Service Association
11. Goodwill Industries
12. Hdme Economics Extension Service, The Pennsylvania State University
13. Huntingdon Valley Nursery School
14. Ivyland Needlework Guild
15. Newtown Friends Sunday School Class
16. Newtown Shoe Store
17. Philadelphia Office of Children and Youth, Department of Public Welfare
18. Southampton Needlework Guild
19. Unitarian Fellowship
20. Warminster Federated Women's Club
21. Warminster Juvenile Police
22. William Penn Center (Friends' Service Association)
23. Y. W. C. A.

APPENDIX B

1964 SUMMER WORKSHOP PROGRAM

THEME: TO RELEASE THEIR POTENTIAL

Monday
June 22 - **A GOOD PROGRAM FOR THE DISADVANTAGED**

9:00 Orientation and Workshop Introduction — Dr. Allan Hartman
Dr. Evangeline H. Ward
Mr. Ernest Rookey

10.00 Observation - Lacey Park Nursery School
Conference and Discussion Period
"Immediate Concerns Teachers Have"

12:00 Lunch

1:30 The Culturally Disadvantaged:
Community, Family, Child

Panel:
Dr. Allan Hartman, Moderator
Teacher: Mrs. Anne Creamer
Social Worker: Mr. Terry Dellmuth
Coordinator: Mrs. Ruth Roberts
Teacher: Mrs. Dorothy Towne

3:30 Tour: The Centennial Joint School District Community - Leader:
Mrs. Ruth Roberts

Tuesday
June 23 - **PLANNING FOR THE DEVELOPING CHILD**

9:00 Osservation
Conference - Discussion Period: Dr. Ward
"Understanding The Preschool Age Child"

11:00 Film: A Long Time To Grow, Part I (Twos and Threes)

12:00 Lunch

1:00 Film: Lacey Park Nursery Program - Discussants: Mrs. Anne Creamer
Dr. Henry Ray
"What Three Year Olds Are Really Like" - Dr. Ward

Wednesday
June 24 - THE SETTING: PHYSICAL AND HUMAN

9:00	Observation Conference - Discussion Period: "Arranging The Physical Space For Good Learning"	Dr. Ward
12:00	Lunch	
1:00	Understanding Ourselves - "We Set The Climate In Which Growth Takes Place" -	Dr. Albert Kaplan

Thursday
June 25 - WE WORK WITH AND FOR: COMMUNITY, FAMILY, AND CHILDREN

9:00	Observation - Participation Conference - Discussion Period "Parents Are People Too!"	Dr. Ward
11:00	Film: Roots of Happiness	Mrs. Ruth Roberts Mr. Terry Dellmuth
12:00	Lunch	
1:00	How Essential Services Have Worked Together For Families At Lacey Park	

Friday
June 26 - BEHAVIOR: THE CHILDREN AND ADULTS WHO WORK WITH THEM DIRECTLY

9:00	Discovering and Recording Children's Behavior	Dr. Kuno Beller
12:00	Lunch	
1:00	Other Adults With Whom We Work: Teachers, Assistants, Administrators, Consultants, Volunteers	Dr. Ward

SECOND WEEK

Monday
June 29 - WE ENCOURAGE CONCEPT BUILDING

9:00	Observation - Participation Conference - Discussion Period:	Dr. Henry Ray
11:00	"Young Children Experience and Think"	Dr. Ray
12:00	Lunch	
1:00	Helping Children Develop Concepts Through Conversation and Discussion	Miss Velma V. Brauch

Tuesday
June 30 -

WE LISTEN AND CONTRIBUTE TO THE LANGUAGE OF CHILDREN

9:00	Observation - Participation Conference - Discussion Period: "Story-Telling, Picture Stories, Books, Poems"	Dr. Ward
11:00	Film: A Long Time To Grow, Part II (Fours and Fives)	
12:00	Lunch	
1:00	Listening to Learn	Dr. Anthony Amato

Wednesday
July 1 -

TEACHING IS GUIDING THEM TOWARD DISCOVERY

9:00	Observation - Participation Conference - Discussion Period: "Free Play and Routines"	Dr. Ward
12:00	Lunch	
1:00	Science Is Curiosity	Dr. Herman Kranzer

Thursday
July 2 -

EXPERIENCES IN MOTION AND SENSORY DEVELOPMENT

9:00	Sounds, Rhythms, Music	Mrs. Sara Hirt
10:30	A Child's World of Sight and Sound	Dr. Ray
12:00	Lunch	
1:00	Exploring Materials Together (Workshop)	Mrs. Dorothy Towne

Friday
July 3 -

AND SO WE BEGIN

9:00	The First Day and Week Emergency Safeguards Record Keeping - Progress Reports	Mr. Ernest Rookey
12:00	Lunch	
1:00	The Round-Up: In Six Weeks, 1964 - What? Long Range Program and Goals	Dr. Hartman

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Preschool and Primary Education Project

Annual Progress Report

1964-1965

1964-65 ANNUAL PROGRESS REPORT
to the
FORD FOUNDATION
on the
PRESCHOOL AND PRIMARY EDUCATION PROJECT

A long range attack to reduce the
educational disadvantage of preschool
children from poverty backgrounds

Conducted for the

COUNCIL FOR HUMAN SERVICES
COMMONWEALTH OF PENNSYLVANIA
Harrisburg
1965

by

Department of
Public Instruction

Department of
Public Welfare

Department of
Health

William W. Scranton, *Governor*

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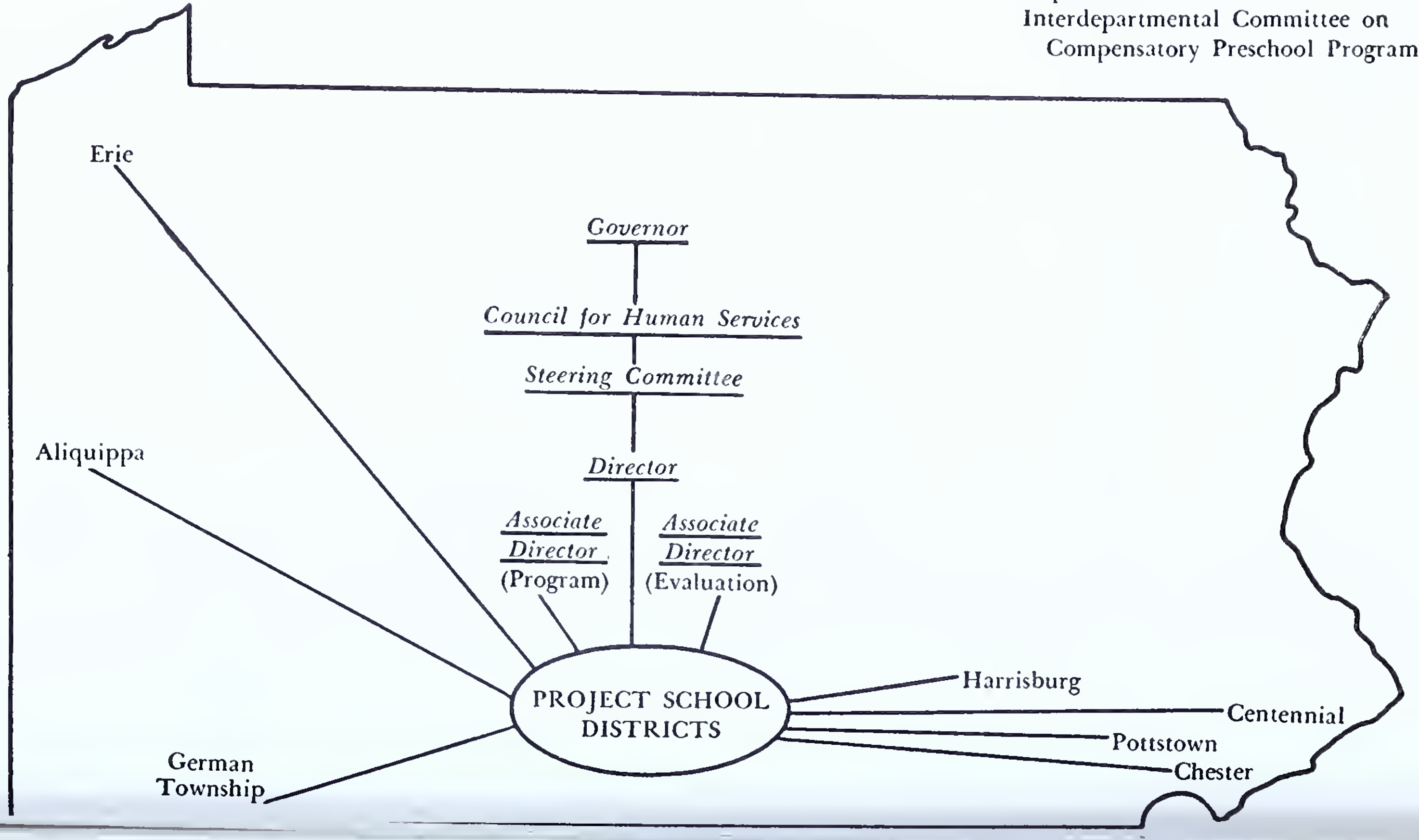
ORGANIZATION

Preschool and Primary Education Project

Supporting Agencies

Department of Public Welfare
Department of Health
Department of Public Instruction
Interdepartmental Committee on
Compensatory Preschool Programs



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I

REPORT BACKGROUND

Summary

The principal accomplishments of the Pennsylvania Preschool and Primary Education Project during its second year were to:

- develop and put into operation a new kind of kindergarten program;
- demonstrate a wide array of imaginative approaches to educating the parents of the disadvantaged child;
- formulate some well-planned training programs for preschool professional and semi-professional personnel;
- establish an evaluation design for the entire project as well as some of its major components;
- obtain findings showing some significant post-test differences between experimental and control children;
- assist federal, state and local agencies to clarify policy concerns and to start additional preschool programs.

Some things did not work out as well as had been hoped or expected. These included:

- difficulties in developing a focus for both the social work and parent education programs;
- finding many non-significant and even negative (i.e., favoring the controls) post-test differences between experimental and control children;
- becoming aware of some of the limitations of research in a demonstration project.

Purpose

The intent of this report, in reviewing the progress, problems, and findings of the project at the end of the second year, is to describe:

(1) the background of the project and the families and children served by the project;
(2) the programs and services developed and operated;
(3) the evaluation design established for these programs and services;
(4) the evaluation findings at the conclusion of the second year;
(5) the implications of these findings for the project's third year;
(6) the project's involvement in federal, state, and local policy concerns and poverty programs.

Limitations

A few cautions are in order before proceeding to the body of this report. First, because of space limitations, only brief descriptions of programs and services have been included. Interested readers, therefore, are advised to write directly to the various projects for more details on programs and services.

Second, readers are cautioned to review the evaluation data presented with both skepticism and suspended judgment. Both the limitations of research in the project (see pages 27-29) and the hazards of testing young children preclude drawing definitive conclusions from the data at this point.

Finally, this report covers only the *second year* of a five-year project. Findings and interpretations noted within the report, therefore, must necessarily be qualified by two realizations. One is that the programs and services developed and demonstrated will be undergoing almost constant modification during the years ahead in attempts to obtain better results. The second is that the findings and interpretations are based on a very short-term experience which would make it extremely unwise to form conclusive judgments about what will happen to the project children in their future years in school. We simply have to wait until the children get older before we can understand the significance of our current efforts with them.

II

PROJECT BACKGROUND

Goal and Assumptions

The project's main goal is to improve the child's school performance. The strategy for attaining this goal calls for:

1. a compensatory educational program;
2. a parent education program;
3. a higher level of and greater coordination between local health and welfare services;
4. an improvement in the preparation of professionals working with children and families from low socio-economic backgrounds.

The goal and strategy of the project are based on four major assumptions. First, that the educational disadvantage of preschool children from low socio-economic backgrounds is caused by deficiencies and lacks in their home environments. Second, that these deficiencies and lacks can be reduced by early and intensive intervention with both the children and their parents. Third, that the key components of this early and intensive intervention should consist of a preschool program, a parent education program, an improved level of social services, and a higher level of trained competence among the professionals assigned to these programs. Fourth, that this strategy will bring about significantly improved school performances by the children.

During the project's second year, another significant assumption was made explicit. This assumption, which has become the basis of the project's preschool program, was that a program specifically oriented to correct certain aspects of a child's language disabilities would generate the most significant improvement in his future school performance. This program is described in the last section of this report.

Description of Project and First Year

The project, which began in September 1963, is conducted under the broad policy guidance of the Governor's Council for Human Services. The Departments of Public Instruction, Public Welfare, and Health jointly sponsor and conduct the project, with the Department of Public Instruction assuming the principal administrative responsibiiity for its day by day operation. The project, which receives partial support from the Ford Foundation, is being operated in seven Pennsylvania communities. Currently, over 1000 children are enrolled in some facet of the preschool program and receive services from 35 professional people. At its termination in 1968, the project will have involved more than 1600 children and most of their parents.

Two different program designs operate in the project. In one, located at the Centennial School District in lower Bucks County, a "Hub" School has been operating a regular school year nursery and kindergarten program for two years. Each group of 40 children that began in the nursery program continued on into the project's kindergarten program with the same teacher. The kindergarten program, in turn, is now being articulated with the first grade program. The Hub School program does not include summer programs.

The second design, organized in the six communities of Aliquippa, Chester, Erie, German Township, Harrisburg, and Pottstown, follows a continuum of three successive summer experiences for each entering nursery age group. Beginning in the summer of 1964 with a preschool nursery, and followed in the summer of 1965 with a pre-kindergarten, the first wave of project children will conclude their experiences with post-kindergarten classes in the summer of 1966. During the regular school year, following the preschool nursery program of 1964, the project teachers instituted intensive home visit and parent education programs. After teaching these children in pre-kindergarten during the summer of 1965, the same teacher is continuing with them through kindergarten during the current school year. In the summer of 1966, this teacher will begin another year with a new nursery group. Her former children, meanwhile, will continue into a terminal summer post-kindergarten with a teacher who will go with them into first grade.

The first year of the project, reported at length in a previous project publication,[1] was concerned principally with administration and design. Personnel had to be selected and their training, supervision, and responsibilities understood and worked out. Project families had to be identified, chosen, interviewed, and enrolled. School buildings had to be selected and equipped. Organizational routines, budgets, vaccinations, milk programs, emergency care, supply requisitions, custodial help, reporting, and public relations had to be developed almost individually for each district. The planning of a testing program and supervising its administration involved considerable time and effort.

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[1] *Progress Report 1963-64,* Preschool and Primary Education Project, Department of Public Instruction, Harrisburg, Pennsylvania.

Second Year Children and Families

In the summer of 1964, which began the project's second year, 240 children were enrolled in its six summer schools. Forty additional children were enrolled in the Hub School when it began its second year of operation in the fall of 1964. Children in both of these programs were identified through census information and social welfare agency referrals with the following criteria:

- the child had to be between the ages of 3½ and 4½;
- the principal wage earner had to be employed or employable only in an unskilled or semi-skilled occupation;
- at least one parent did not complete high school;
- the child had no gross physical or mental handicaps.

Demographic data collected on 273 families entering the project in 1964 indicated:

- almost 6 out of every 10 project families had at some time been on public assistance;
- about 2 out of every 3 project families lived on an annual family income of less than $4000;
- the principal family wage earner provided for an average family of 6 or 7;
- the typical project home contained less than 1 room per family member;
- more than 1 out of every 3 project families was headed by a single adult;
- more than 7 out of every 10 mothers had not completed high school.

It is not within the scope of the project to significantly change the preceding facts. Nevertheless, an important thrust of the project is to help correct or ameliorate some of the psychosocial correlates of economic deprivation. Reports from the project's social workers indicated the following percentages of families having problems in the areas noted:

employability and money management	51%
marital adjustment	31%
providing appropriate parental care	46%
child behavior, adjustment and health	51%
adult mental health	12%

Unfortunately, it was not possible to obtain any measure of the intensity of these problems or to make valid comparisons with middle class groups. However, on the face of the evidence, some breakdown in family functioning would be suspected.

It is not surprising to find that the effects of economic deprivation, coupled with a breakdown in individual and family functioning, result in sub-par test performances of preschool children. The Peabody Picture Vocabulary Test (PPVT) was administered to approximately 70 per cent of the children who entered the project's preschool nursery program in the summer of 1964. In addition, 80 children in two schools were given the Illinois Test of Psycholinguistic Abilities (ITPA), while 71 children in the same schools were given the picture vocabulary section of the Stanford-Binet.

The PPVT is designed to provide an estimate of a child's verbal intelligence through the measurement of his receptive hearing vocabulary. Because of tester variability, there is reason to doubt the reliability of the test results. Nevertheless, the average mean IQ for all children tested with the PPVT in the six summer projects was below 80, with only two districts averaging better than this IQ score.

Further authentication of the low verbal intelligence of children entering the summer projects was provided through the Picture Vocabulary Test of the Stanford-Binet. The average mean IQ of the children tested was 80.

More detailed confirmation of the low verbal abilities of the project's preschool children was provided by the ITPA. This test, described in Appendix A, is designed to assess nine separate components of psycholinguistic development. Since the ITPA and its nine components will be referred to several times within this report, these components are listed and described here:

(1) Auditory Decoding—understanding what is heard.
(2) Visual Decoding—understanding what is seen.
(3) Auditory-Vocal Association—educing relationships from what is heard.
(4) Visual-Motor Association—educing relationships from what is seen.
(5) Vocal Encoding—expressing ideas verbally.
(6) Motor Encoding—expressing ideas by motor means.
(7) Auditory-Vocal Automatic—using the structure of language automatically.
(8) Auditory-Vocal Sequencing—reproducing a series of symbols presented audibly.
(9) Visual-Motor Sequencing—reproducing a series of symbols presented visually.

For purposes of comparing the entering project children in the two districts where the ITPA was administered with a representative group from a more typical environment, the ITPA standardization sample[2] most nearly equivalent in chronological age was chosen. The project children were, on the average, 4 to 5 months older but from 2 to 5 months lower in language age than the standardization sample. As can be seen in Table I, the project children in both districts functioned above the level of the standardization sample only on Visual-Motor Association and Auditory-Vocal Sequencing and on Vocal Encoding in Harrisburg alone.

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[2] McCarthy, J., and Kirk, S.: *The Construction, Standardization and Statistical Characteristics of the Illinois Test of Psycholinguistic Abilities,* University of Wisconsin, Madison, 1963.

TABLE I

ITPA Language Ages of Nursery Age Project Children and Standardization Sample of Comparable Chronological Age July 1964

Items	Standardization Sample (n-50)	Chester School District (n-40)	Harrisburg School District (n-40)
Auditory Decoding	3.6	3.2	3.5
Visual Decoding	3.5	3.2	3.0
Auditory-Vocal Association	3.6	2.7	3.0
Visual-Motor Association	3.6	3.8	3.11
Vocal Encoding	3.5	2.10	3.6
Motor Encoding	3.6	3.2	3.1
Auditory-Vocal Automatic	3.6	2.10	3.1
Auditory-Vocal Sequencing	3.8	4.0	4.1
Visual-Motor Sequencing	3.7	2.9	3.1
Chronological Age	3.6	3.10	3.11
Language Age	3.6	3.1	3.4
Language Quotient	100	80.43	85.10

III

SUMMER NURSERY AND FOLLOW-THROUGH PROGRAM

As previously mentioned, the project is composed of two types of programs which run concurrently: the summer nursery with its follow-through program, and the Hub School program. The former consisted, in 1964-65, of a six-week summer nursery program followed by intensive parent education and social work programs during the nine months of the school year. This section of the report will:

- describe what went on in each of these programs;
- summarize the subjective evaluations made of them;
- describe the objective evaluation design established;
- summarize the evaluation findings.

Summer Nursery Programs (1964)

Aliquippa, Chester, Erie, German Township, Harrisburg, and Pottstown entered the project in the summer of 1964 by beginning six-week nursery programs. To run their programs, each district hired a teacher, a teacher aide, a coordinator, and a social worker. Prior to the nursery program a two-week training workshop, reported in a previous publication,[3] was conducted for the teachers and their aides. While this workshop was in session, coordinators and social workers were engaged in enrolling children and preparing facilities for the nursery program.

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[3] *Progress Report, 1963-64: Op. Cit.*, pp. 34-36.

Morning and afternoon classes were conducted daily in each summer nursery. These classes ran about two and a half hours each, with 20 children and 2 adults (teacher and aide) in attendance. Classes were conducted for 24 days during the six-week program, with one additional day a week set aside for parents' meetings and staff planning. School attendance during the summer was about 90 per cent of enrollments.

Generalizing on the content, activities and instructional approaches that characterized the six nursery programs would be difficult, if for no other reason than that systematic observation of these programs was not undertaken. The data for generalizing, therefore, come mostly from written reports of the teachers and periodic but nonstructured observations made by staff members.

The summer nursery programs were most often conducted in rooms normally used for kindergarten classes during the regular school year. Some of the rooms were well ventilated and lighted, with linoleum flooring and light colored plasterboard or cinderblock wall construction. These rooms were shaded with Venetian blinds and contained easily accessible toilets, sinks, storage facilities, and drinking fountains. The furniture, equipment, and supplies available were adequate as measured by prevailing nursery standards. On the other hand, some of the project rooms were located in old, dirty brick buildings with concrete or worn-out hardwood floors, poor interior lighting, and walls painted in dull and uninspiring colors. Bathrooms were frequently at long distances from the classroom; furniture and equipment were substandard; wash sinks or drinking fountains were not easily available; and room maintenance was generally poor.

Most of the classrooms were set up along similar lines. All had corners for housekeeping, games, painting, music, blocks and toys, plants and animals, books, and pictures. Many times, walls were covered with displays of the children's work, "helper's" charts, and posters typically reminding the children what day it was or whether it was sunny or rainy. Since it was summer, another room was usually available for active play equipment, such as slides, climbing apparatus, and balancing boards.

For the most part the summer programs used identical schedules with the time blocked out (except for minor variations) as follows:

(1) The first time block was spent in work, individual choice or free play activities. These terms were used synonymously to mean that children would occupy themselves in block building, finger painting, cutting, housekeeping, or similar types of activities.

(2) The second time period involved cleanup, lavatory and snacks, although some schools scheduled music and rhythm activities prior to the snack period.

(3) The third block of time was a quiet period with rest, story telling, conversations, puzzles, and crayoning predominating.

(4) The fourth period had group activities or active play or both scheduled. Teachers planned discussions, dramatizations, introduction of pictures, and science activities.

The staff was unable to discern objectively just how each teacher decided what to stress, what activities to employ or how to use her time. From teacher reports, it would appear that a blend of (a) assumptions about low-income families, (b) some first-hand knowledge about the children and families within the school neighborhood, (c) some carryover from the training program, (d) their previous teaching experiences, and (e) just plain intuition determined what the teachers did. Nevertheless, whatever the basis for their diagnoses, almost all teachers perceived the key learning problems to be of a social nature. Children had to learn to share, play with their peers, work in groups, respect property, have good relationships with both the other children and adults, and to attend to what was being asked of, or said to, them. While it is true that the teachers did indicate learning problems in such areas as language, creativity, health habits, and motor coordination, their concern in these areas *taken together* did not equal their concern over the child's socialization behavior.

At the termination of the summer nursery, the teachers were asked to list the main accomplishments of the program. Their responses have been classified and quantified in Table II. As can be seen, about half of the teacher responses indicated accomplishments in social and emotional development, and more than two-thirds of the responses classified accomplishments as either social, emotional, or motoric. Less than one-quarter of the responses showed accomplishments of an intellectual nature (e.g., cognition and language) which, as will be seen in the evaluation section, was the focus of the research evaluation. Only 8 per cent of the responses characterized the summer accomplishments as esthetic or creative. In fact, half of the project teachers did not list *any* creative, esthetic, cognitive, or language accomplishment for the summer program.

TABLE II

Main Accomplishments of 1964 Summer Nursery Program: Classification and Enumeration of Teacher Responses

Area of Accomplishment	Number of Teacher Responses (63)	Teacher Responses Percent	Number of Teachers Responding (n-6)
Social Development (relationships and maturation)	20	32	6
Motor and Manipulative Develop- (including control over bodily functions)	12	19	4
Emotional Development	11	17	5
Language and Speech Development	8	13	3
Perceptual and Cognitive Development	7	11	3
Creative and Esthetic Development	5	8	3

That the perception of the project teachers was essentially accurate is borne out in part by the post-test results (see Table IV) which indicate few significant differences between project and control children on tests of perceptual, cognitive, and language proficiency. It is possible that certain areas of language and cognitive growth may not have been measured by the tests or perceived by the teachers (e.g., growth in language skills may very well have been unobserved in the teachers' responses to social development). Nonetheless, it can be posited that these findings, as well as the lack of significant test differences between experimentals and controls, could be accounted for by one or more of the following:

(1) the short duration of the nursery program;

(2) the failure to stress language and cognition sufficiently in the teacher training program;

(3) the general tendency of early grade and preschool teachers to place more stress on "adjustment" than on intellectual or creative accomplishment;

(4) the possibility that growth in language, creativeness, and cognition may not be manifested so clearly, or in such a short time, as growth in other areas.

In summary, it would be fair to say that the project nurseries probably did not differ significantly in planning and accomplishment from traditional cooperative and day nurseries. Considering the fact that none of the teachers had nursery training or experience prior to their participation in the project, their accomplishments during the first summer must be considered an important first step toward more radical departures from accepted nursery programming.

Parent Education Programs

One major assumption of the project has been that extended efforts aimed at changing the behavior and attitudes of parents can have a significant effect on the child's subsequent school behavior and performance. Over the past year the project experimented with a variety of programs aimed at bringing about meaningful parental involvement which would, it was hoped, affect parent behavior and attitudes towards their children.

The original summer project design called for releasing teachers, following the first summer nursery program, from half of their regularly assigned duties during the subsequent school year. During the 1964-65 school year, therefore, teachers in the six summer project districts (e.g., the Hub School design called for a full school year nursery program during this period) were released five afternoons a week to work with project social workers in formulating and implementing parent education programs. These programs were to be both a follow-up to the 1964 summer nursery program and a precursor of the 1965 summer prekindergarten program. The children who had attended the summer nursery program were not in formal school attendance during this period.

The project teachers and social workers experimented mainly with three distinct ways of changing parental behavior and attitudes:

(1) by working with parents and children in their homes;
(2) through parent group meetings;
(3) through parent observation and participation in classroom programs.

During the year, each project district developed its own special blend of these approaches. Some concentrated on one approach while others spread their energies and efforts over two or three of these approaches. Even within each of these strategies there was considerable variation among the six districts. These variations were both helpful and necessary in gaining insights into the possibilities and difficulties of different approaches. The stress was on "try out," development, feasibility testing, and manageability. The structuring and field testing of two or three well defined approaches must still be carried out during the remaining years of the project.

All project teachers made at least one home visit during the school year in an attempt to work with both the parent and the child. In districts where home programs were the major mode of operation, home visits averaged as many as two a month to each home.

Judging from their own evaluations, teachers succeeded in gaining maternal involvement during these home visits. Teachers evaluated the involvement of 179 mothers who were visited in the 6 project centers. Fifty-nine per cent of the mothers were rated as showing considerable involvement, 26 per cent with moderate involvement, and 15 per cent with slight involvement. Even given the weakness of self-reporting assessments, the results must be considered, at least in part, a tribute to both the skill and dedication of the project teachers and the motivation of the mothers.

During the home visits, teachers brought nursery-kindergarten materials to the homes and used them with the children and their mothers in an array of activities at that level. Mothers observed, participated in, or had demonstrated to them:

(1) the reading and discussion of stories;
(2) the recitation of nursery rhymes;
(3) the use of various manipulative materials (puzzles, clay, scissors);
(4) the use of various visual materials (pictures, magazines);
(5) the playing of games focused on improving such abilities as counting, memory, and following directions.

Generally teachers selected those activities that they believed had relevance for the child's future kindergarten performance and could be handled by parents or children during the interim between visits. In those cases where home visits were the major component of the parent program, teachers purposively attempted to encourage the children to engage in activities on their own or with the help of their parents between visits.

The benefits of the home visit program cannot be isolated from the over-all effects of the parent and school programs. Nevertheless, the teachers have suggested that the home program (a) was significant in improving relations with, and developing enthusiasm for, the school, (b) helped to familiarize parents with school materials and activities, and (c) aided both the teacher and parent in understanding the child's behavior.

Group meetings for parents were conducted in all projects. The size of the meeting groups varied. They ranged from fewer than 10 parents to meetings with all (40) parents present. Usually the smaller group meetings prevailed in those districts which stressed this as a mode of attack more than home visits. The opposite situation existed in districts emphasizing intensive home programs; meetings here tended to be larger and less frequent. Furthermore, where parent group meetings were the predominant approach, average attendance was higher than in districts where home visits prevailed. In short, concentration on one mode of approaching parents seemed to reduce the effectiveness of other modes. Another and simpler explanation might be that parents are only going to devote so much time to education. Those parents who are regularly visited by school people are seldom inclined to also attend school sponsored meetings. Likewise the reverse might probably be true.

Parent meetings were attended mainly by mothers. With one exception, it was highly unusual to find even a handful of fathers at parent meetings. This exception was a series of meetings specifically planned by a social worker around the needs of a sizable number of unemployed fathers in a district suffering from acute unemployment. Otherwise, the lack of paternal attendance in many instances was simply due to the absence of fathers within the project families. Some 36 per cent of project families had only one parent. A more prosaic explanation might be that men tend to leave the early education of children to their wives.

Table III summarizes some of the facts on attendance at planned parent group meetings. The percentages were computed on the basis of one parent's attendance rather than both.

TABLE III

Parental Attendance at Parent Education Meetings:
A Summary from Six Project Centers (1964-65)

Parental Attendance	Average, Percent	Range, Percent
In average attendance	32	15–56
Attending over 50% of meetings	37	10–65
Attending at least one meeting	80	70–90

The principal focus of most group meetings quite naturally was on the child. Discussions, films, and speakers were used to bring the parents' attention to the characteristics of preschool children, their health and nutritional needs, the types of preparation the children were getting for school, and a wide range of emotional and behavioral problems commonly manifested in early childhood. Psychologists, nurses, reading specialists, home economists, and other professionals talked to parent groups on topics ranging from the wise purchasing of toys and the interpretation of test scores to planned parenthood and the health services provided through local clinics. Films were shown and discussions conducted on such subjects as sex education, fear and shyness in children, discipline, and the growth characteristics of preschool children.

Besides the somewhat formalized meetings held in each project center, numerous less formal and more imaginative programs were attempted. At one school, for example, family hosteling was introduced at one parent meeting and aroused such interest that a hosteling venture was subsequently planned and carried out by both the parents and staff. A "Parents' Co-op" was also initiated by project parents at this same school for the purpose of improving conditions for their children. To date, the Co-op has initiated a project to train teen-agers in babysitting, raised money (through such devices as a Hungarian Goulash sale and a Quilt Raffle) for equipping a Children's Center in a donated housing unit, and solicited local agencies and businesses for scholarship funds to send project children to summer camps.

The teachers and social workers saw distinct benefits in the group programs. These benefits include:

(1) opportunities for parents to share ideas and problems among themselves and with the staff;
(2) the chance for parents simply to relax away from home;
(3) the improvement of relations between the school and these parents;
(4) a better level of knowledge and understanding concerning child behavior and school activities.

During the year, teachers and social workers in a few districts decided to try a variation on the usual parent group meeting. In most instances this decision came about because attendance at regularly planned meetings was unsatisfactory. In addition, most teachers saw a need to demonstrate effective teaching techniques and skills to parents while in the presence of their children. Moreover, a greater economy of effort seemed possible in this approach than in the home visit program. Finally, by bringing children back into the classroom in small, informal groups once or twice a week, it was thought that parents would more readily respond to an invitation to sit in (or participate) with their children than to attend adult meetings, where they might possibly feel threatened or uneasy.

Teachers generally carried on the same types of activities as they had during the previous summer. The basic difference in the winter program was that they were now consciously attempting to teach parents by demonstrating with children. If, for instance, the teacher was showing the children how to cut and paste paper pumpkins at Halloween, this activity was done, if possible, with the parents' assistance. The purpose (or hope) was that this type of cutting and pasting would be continued in the home under the newly skilled and sensitive guidance of the parent. At one project, as another example, the teacher recited a short poem to the children and illustrated with "finger play." At the end of the session, she gave each attending parent a mimeographed sheet of similar poems to use with finger play at home.

Although this third approach did not solve the perennial problem of poor parent attendance, it did suggest certain distinct values.

(1) Parents could observe the children in a different environment and with their peers, thus gaining some new insights into their child's behavior.

(2) Exposure to an actual classroom situation gave parents a chance to formulate a more realistic idea of what school was like.

(3) For some teachers, this approach was more comfortable and enabled them to relate to parents more easily.

At the conclusion of the parent programs, teachers were asked to indicate whether or not it would have been better had the children been in regular nursery school attendance during the year rather than conducting the parent programs as they did. Although most of the teachers were reluctant to take a definite stand, almost all stated that they believed the parent program was important. None thought it should be dropped. Implied or stated in their commentary was the opinion that parents make a difference in how well a child does in school. While this opinion is certainly not a startling revelation, even casual observation of current educational practices does not suggest that use is made of this supposedly common knowledge.

Furthermore, the teachers felt the program should be continued, despite the many obstacles confronting them during the past year. One teacher was without a social worker for the greater part of the year and had to personally contact parents over a 10 block area in order to get them to come to meetings. Again and again teachers were confronted with parents who missed appointments, "forgot" to be home when the teacher visited, or simply could never be located. Some carefully planned meetings, for which speakers had been secured, were attended by only two or three parents. Other meetings went astray because more "brass" were in attendance than parents. Inadequate or no space for meetings or classroom demonstrations was a common problem. A basement storage room had to be used in one case and a local church classroom borrowed in another. Perhaps, however, the most severe problem for each teacher through the long winter was that day in and day out she was alone. The job she was doing had no set precedents; with no other teachers or educators could she hold profitable discussions about what she was doing.

Social Work Program

A major assumption of the project is that intensive social welfare services are a needed complement to the educational programs if the latter are to have any significant or long lasting effects. Although the project has not yet come up with empirical support for this assumption, the development and definition of these services have been a primary preoccupation of the staff over the past year.

By the fall of 1964, all project centers had been assigned full-time social workers. All of these personnel had had previous social work experience and the majority of them had completed graduate work in their field. Unlike the teachers, the social workers were not responsible to, nor under the guidance (or payroll) of, the local school districts to which they were assigned. To further the ambiguity of their position, they were not considered part of the staff of the county assistance office. Not being tied to any single institution afforded the social workers an opportunity, in a sense, to create their own positions. The price of this independence, however, was the loss of those services and relationships which would normally exist through institutional affiliation. Not being a school social worker, the project social worker could not readily call upon the services nor obtain the assistance of those within the school system. Likewise, not being a public assistance caseworker, he could not easily obtain help from either the county assistance offices or local health and welfare agencies. That the social workers succeeded, whether through persuasion or negotiation or both, in securing the needed services and assistance is, in large part, a credit to their individual competency and persistence. The factors underlying the paradox of their position, however, remain to be confronted and clarified during the remaining years of the project.

The main tasks of the social worker over the last year were:

(1) selection and enrollment of new project families;
(2) identification and diagnosis of family needs and problems;
(3) provision for necessary health and welfare services;
(4) joint responsibility with the teacher for parent group programs;
(5) keeping teachers and coordinators informed of, and sensitive to, existing family problems.

In some project centers, social workers also attempted to move from what was essentially a service relationship with local agencies to a contributory one. In the former relationship, which is still the prevailing mode, the project has sought specific services and assistance from specific agencies for the diagnosed needs of each project family. That is, a social worker who had a family in need of marital guidance might approach Family Service and request their aid for this family.

In a contributory relationship, agencies have an a priori commitment and involvement with all project families. These families are considered a part of each agency's on-going responsibilities without a social worker having to process a convincing referral to obtain services. How far the project can move toward a contributory relationship will depend, in part, on the way in which the project resolves the ambiguity of the social worker's assignment. As he currently operates, the social worker represents only himself on the local level. Without the status and authority conferred by institutional representation, his catalytic functions in gaining the cooperation necessary for a contributory relationship would seem to be somewhat limited.

While the social worker's role and relationships did come to the forefront as an unresolved issue, the job of providing needed services to project families did not appear to be impeded by this problem. Over the year the social workers personally provided intensive casework services to more than one quarter of the project families, and referred or continued community services for almost half of the project families. Data which would permit accurate reporting of specific family improvements due to the social work programs are extremely hard to locate. Social workers noted at least 157 instances where, in their judgment, improvements could be observed. These ranged from securing employment, providing health care, and bettering marital situations to making improvements in housing, obtaining vocational training, and developing more enlightened parent-child relationships. While there was some confusion and a tendency to use improvements and services synonymously in the social worker reports, what should not be obscured is the fact of assessments being attempted in a field not noted for nor prone to rigorous evaluation.

Evaluation of Summer Nursery and Follow-through Program

In addition to the evaluations of the summer nursery and follow-through program made by teachers and social workers, an objective evaluation of the program was carried out in the second year. The purpose was to find out:

> How well do operationally defined disadvantaged children do, compared to control children, on tests of language and cognition after being exposed to a six-week summer nursery program and a subsequent nine-month combined social work-parent education program?

The evaluation design for answering this question consisted of:

(1) identifying 80 operationally defined disadvantaged children in each of six project centers;

(2) randomizing each group of 80 into two groups of 40 each, one designated as experimental and the other as control;

(3) exposing the experimental group to a six-week summer nursery program (summer 1964) and a combined social work-parent education program (1964-65);

(4) testing all experimental and control children at the conclusion of the program (June-July 1965) with the ITPA and the PPVT.

On pages 27 to 29 of this section are some of the difficulties and limitations in carrying out this design. In addition, the analysis of results of this design was hampered by the lack of valid pre-measures (with the exception of Chester and Harrisburg), although initial equality of the experimental and control groups was assumed because both groups were random samples of the same population. Finally, because many of the control population received a variety of experiences during the year, mostly due to the start of federally funded preschool programs, all subjects (experimental and control) had to be placed in one of the following categories for the proper analysis of data (See Appendix F for number and percentages in each project center).

(1) Experimentals with summer preschool and the social work-parent education program (n-154).

(2) Experimentals with summer preschool but no social work-parent education program (n-44).

(3) Controls with no summer preschool or social work-parent education program (n-90).

(4) Controls with no summer preschool but with social work-parent education program (n-37).

(5) Controls enrolled in another preschool project but with no social work-parent education program (n-69).

(6) Controls enrolled in another preschool project who had social work-parent education programs (n-3).

(7) Experimentals or controls who could not be categorized in the above because of such factors as late entry and incomplete testing (n-26).

For reasons discussed later (see pages 28-29), few comparisons between cities or between uncollapsed conditions were made. Tester variability, which seemed to be large, was the primary reason for limiting tests of significance to comparisons where such an effect was equalized in all contrasted groups.

In the findings reported in Tables IV through IX, the "t" test was employed to determine if the difference between the experimental and control groups was significant. Any difference attributable to chance in more than 10 out of 100 occurrences was deemed non-significant. The significance level of the "t" value is reported at values at and below .10; above that, they are reported as NS (non-significant).

Table IV indicates no significant differences between the experimental and control groups on the variables measured by the PPVT for the project as a whole (see Appendix G for standard deviations on PPVT and ITPA). However, a significant difference (.09) did appear between the groups on ITPA Language Quotient scores. This difference is at-

TABLE IV

Collapsed Comparison of Performance on Various Criterion Variables of Experimental and Control Groups Prior to Entrance into Kindergarten in Six Project Centers

Variable	Experimental * (n-198)	Control * (n-199)	"t" **	Significance Level
PPVT IQ	81.7	79.8	.95	NS
ITPA LQ	94.4	91.7	1.70	.09
Auditory-Vocal Automatic ...	6.4	6.0	1.21	NS
Visual Decoding	9.8	9.2	1.66	.10
Motor Encoding	11.6	10.8	2.06	.04
Auditory-Vocal Association ...	10.9	10.8	.29	NS
Visual-Motor Sequencing	8.4	7.8	1.52	NS
Vocal Encoding	10.9	9.9	2.54	.02
Auditor-Vocal Sequencing ...	15.9	16.0	— .26	NS
Visual-Motor Association	10.9	10.6	.77	NS
Auditory Decoding	14.3	15.2	—1.38	NS

* For purposes of analysis, conditions 1 and 2 have been collapsed to form the experimental group and conditions 3, 4, 5, and 6 have been collapsed to form the control group.

** A minus (—) sign indicates differences favoring the control group.

tributed to significant differences occurring in the Visual Decoding (.10), Motor Encoding (.04) and Vocal Encoding (.02) subtests.

As shown by a review of Table V and of the data for each project center (see Appendix C) the basic reason for the statistically significant superior scores of the experimental children on the total ITPA can probably be attributed to the performances of the experimental children in German Township and Pottstown. Similarly, the superior experimental scores on ITPA subtests are due primarily to superior performances in one or two project centers.

Despite the small number of significant differences favoring the experimental group, a look at the trend (although statistically non-significant) of ITPA scores does indicate that:

(1) in five out of the six project districts, the experimentals exceeded their controls in language quotient scores;

(2) the experimentals exceeded their controls on seven out of nine ITPA subtest scores in at least four, and sometimes five, of the six project centers.

TABLE V

Significant and Non-significant Performance Comparisons on Various Criterion Variables of Experimental and Control Groups Prior to Entrance into Kindergarten in Each of Six Project Centers

	Aliquippa	Chester	Erie	German Township	Harrisburg	Pottstown
PPVT IQ	NS	NS	NS	NS	NS	.03
ITPA LQ	NS	NS	NS	.08	NS	.05
Auditory-Vocal Automatic	NS	NS	NS	.05	NS	.04
Visual Decoding	NS	NS	NS	NS	NS	.01
Motor Encoding	NS	NS	NS	.001	NS	NS
Auditory-Vocal Association	NS	NS	–.02*	NS	NS	NS
Visual-Motor Sequencing	NS	NS	NS	.001	NS	NS
Vocal Encoding	NS	NS	.02	.001	NS	NS
Auditory-Vocal Sequencing	NS	NS	–.10	NS	NS	NS
Visual-Motor Association	NS	NS	NS	NS	NS	NS
Auditory Decoding	NS	NS	–.01	NS	NS	NS

* A minus (–) sign indicates a significant difference favoring the control group.

The two weakest areas of comparative ITPA performance by the experimental group are in Auditory Decoding and Auditory-Vocal Sequencing. Only a small dissimilarity exists in favor of the experimental group in the areas of Auditory-Vocal Association and Visual-Motor Association. The two strongest areas, on the other hand, are in the encoding processes, motor and vocal (Appendix C). This seems to mean that, at the time of the tests, the experimental group was:

(1) weakest in hearing what was said to them and in recalling the sequence of things said (remembering);

(2) somewhat weak in relating things heard or seen in any meaningful way (association);

(3) strongest in expressing themselves.

Evaluation of Social Work-Parent Education Programs

As noted previously, teachers and social workers attributed many benefits to the social work-parent education programs. In order, however, to obtain some objective evidence on these benefits, the staff, at the beginning of the second year, decided to establish a separate evaluation design for this query. In two project centers, Chester and Harrisburg, therefore, the original program structure was revised following the 1964 summer nursery program so that in each district:

(1) half of the children (n-20) who had had a summer nursery program (1964) would be enrolled in the social work-parent education program;

(2) half of the children (n-20) who had had a summer nursery program (1964) would *not* be enrolled in the social work-parent education program;

(3) half of the children (n-20) who had *not* had a summer nursery program (1964) would be enrolled in the social work-parent education program;

(4) half of the children (n-20) who had *not* had a summer nursery program (1964) would *not* be enrolled in the social work-parent education program.

At the conclusion of the social work-parent education program in the spring (1965), these groups were contrasted by means of analysis of variance on the variables measured by the PPVT and the ITPA. Had there been significant differences in the over-all summer nursery and follow-through program evaluations in Harrisburg and Chester, it would have been possible to assess the contribution of the social work-parent education program to these differences. As shown previously, however, there were no statistically significant differences between experimentals and controls in either district resulting from the over-all program. Therefore, obviously, no significant differences were to be found between any of the four substudy groups. The analysis of variance comparisons of the four social work-parent education substudy groups are reported in Appendix H.

IV

HUB SCHOOL PROGRAM

Description

Enrolled in the Hub School program during the past year was a nursery group of 40 children and a kindergarten group of 36 children who had attended a full school year nursery program the previous year. Sessions for both classes generally ran for two and a half hours in the morning and again in the afternoon, with half of each group enrolled in each session. The nursery was in operation for about 120 days while the kindergarten ran for about 130 days. Attendance averaged 76 per cent for the nursery and 89 per cent for the kindergarten.

The Hub School program was much like the programs conducted in the other project centers. It differed, of course, in its length (full school year versus summer only) and, seemingly, in its greater stress on language development. These were some of the more prominent features of the Hub School program.

(1) An ordered and sequential introduction of new materials and experiences to the children. A pounding board, with pegs and mallet, for example, was used prior to a worktable, hammer, and nails. In the block corner, trestles and planes for constructing see-saws or walking boards preceded playing with wheel toys and large cardboard blocks. Single paint colors were used before a variety of colors for finger and easel painting were introduced. Books and records were placed in the library only after the children had heard the stories and music.

(2) The development and "try out" of a variety of activities aimed at developing discrete language and cognitive skills. Vocal expressiveness was encouraged through activities built around a puppet theatre, a battery operated classroom telephone system, and the slide projection of life-size candid pictures taken of a class in session. Numerous group games involving memory, perceptual discrimination, logical sequence, and associative skills were developed.

(3) An ambitious array of field trips aimed at widening the children's environmental awareness. Excursions ranged from visits to the local firehouse, a farm, a bakery, a local spaghetti factory, and a supermarket, to trips to a restaurant, an airport, a nature center, and a ride on the Reading Railroad.

(4) A conscious attempt to plan activities aimed at enhancing each child's feeling about himself. Typical of such planning was the use of full-size mirrors in the classroom, projection of full-size photos of the children on a screen, playback of a child's own voice on a tape recorder, prominent display of each child's work (with his name on it), and celebration of each child's birthday.

Evaluation

As with the summer nursery and follow-through program, an objective evaluation of the Hub School program was conducted at the end of the second school year. The purpose again was to compare the project's children with control children on tests of language and cognition. The evaluation design for this purpose called for:

(1) identifying 80 operationally defined disadvantaged children during each of the past two years (1963 and 1964);

(2) randomly dividing each group of 80 into two groups of 40 each, one designated as experimental and the other as control;

(3) exposing the first experimental group (1963, hereinafter called Wave I) to both a regular school year nursery and a regular school year kindergarten program along with a social work-parent education program;

(4) exposing the second experimental group (1964, hereinafter called Wave II) to a regular school year nursery program along with a social work-parent education program;

(5) testing Wave I early in kindergarten and at entrance to first grade, and Wave II early in the nursery program and at entrance into kindergarten. Testing was done with the ITPA, the PPVT, and the Metropolitan Readiness Test.

Table VI compares the ITPA and PPVT test performances between Wave I experimental and control children after two or three months of kindergarten. (The experimentals had had a regular school year nursery program.) The controls entered kindergarten classes at the same time as the experimentals at the beginning of the 1964-65 school year. As Table

VI shows, the experimentals had significantly better scores on the PPVT and on the Visual Decoding subtest of the ITPA. There were no other significant differences at that time on the criterion variables measured.

TABLE VI

Performance on Various Criterion Variables of Wave I Experimental and Control Groups at the Kindergarten Level, Fall 1964

Variable	Experimental (n-35)	Control (n-38)	"t"	Significance Level
PPVT IQ	98.6	88.2	2.56	.02
ITPA LQ	97.2	91.3	1.52	NS
Auditory-Vocal Automatic	9.1	7.9	1.43	NS
Visual Decoding	11.6	8.5	3.14	.01
Motor Encoding	11.1	11.2	—.11	NS
Auditory-Vocal Association	13.5	12.3	1.20	NS
Visual-Motor Sequencing	9.9	9.9	.00	NS
Vocal Encoding	11.9	12.1	—.24	NS
Auditory-Vocal Sequencing	16.0	15.7	.25	NS
Visual-Motor Association	13.4	12.0	1.63	NS
Auditory Decoding	17.9	16.6	1.00	NS

Table VII compares the Metropolitan Readiness Test performances between Wave I experimental and control children at entrance into first grade (October 1965). No significant differences were noted between the groups on any of the items measured by this test.

TABLE VII

Comparison of the Metropolitan Readiness Test Performances of Wave I Experimental and Control Groups at Entrance into First Grade, October 1965

Variable	Experimental (n-25)	Control (n-13)*	"t"	Significance Level
Word Meaning	15.68	15.39	.56	NS
Sentences	11.48	10.69	1.24	NS
Information	11.84	11.61	.41	NS
Matching	14.16	14.07	.08	NS
Numbers	15.56	16.46	—.76	NS
Copying	6.28	5.69	.63	NS
Total and Differences	75.00	73.91	.32	NS

* Unfortunately, for a variety of reasons, it was impossible to test all control children who had been pre-tested.

The Metropolitan Readiness Test is designed to assess the preparedness of children for first grade instruction. The test has a sufficiently high correlation with first grade achievement to be considered a valid index of readiness.[4,5] From Table VII, it can be concluded, then, that

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[4] Hildreth, G.; Griffiths, N.; and McGauvran, M.: *Manual of Directions—Metropolitan Readiness Tests,* Harcourt, Brace, & World, Inc., New York, N. Y., 1965, pp. 12-13.
[5] Gardner, E. Buros, O.: *Review of the Metropolitan Readiness Test,* Fourth Metal Measurements Yearbook, The Gryphon Press, Highland Park, N. J., 1953, p. 605.

Wave I experimental and control children are about equally "ready" for first grade instruction, even though a slight (but non-significant) trend of scores favors the experimentals.

One possible reason for the lack of significantly better test performance by the experimentals could be due to the initially high kindergarten test performance on the ITPA of both groups. This initial performance, which the staff would suspect as valid for this group might have placed a ceiling on future test performances. On the ITPA, the experimentals and controls are close to the norm group mean established for this test. At first grade the experimentals' total score on the Metropolitan Readiness Test ranked at the 61st percentile on the established first grade norms while the control group ranked at the 58th percentile. Furthermore, and in support of the contention that the Hub School Wave I group and their controls were probably atypical to begin with, an examination of the Metropolitan Readiness Test scores of nine preschool children from the same background at the Hub School who did *not* have any nursery or kindergarten experience reveals that they ranked on the 55th percentile of the test.

Wave II children at the Hub School entered the nursery program in September 1964. After two or three months in the program, they were tested, along with their controls who were not in school, with both the ITPA and PPVT. No significant difference between the two groups was observed (Table VIII).

TABLE VIII

Performance on Various Criterion Variables of Wave II Experimental and Control Groups at Nursery Level, Fall 1964

Variables	Experimental (n-39)	Controls (n-27)	"t"	Significance Level
PPVT IQ	83.1	77.8	1.33	NS
ITPA LQ	82.3	77.1	.86	NS
Auditory-Vocal Automatic ...	4.5	5.4	−1.55	NS
Visual Decoding	5.2	6.1	−1.00	NS
Motor Encoding	7.9	7.3	.69	NS
Auditory-Vocal Association ...	6.8	7.0	−.22	NS
Visual-Motor Sequencing	6.5	5.2	1.55	NS
Vocal Encoding	6.9	7.4	−.58	NS
Auditory-Vocal Sequencing ...	11.2	9.7	1.17	NS
Visual-Motor Association	7.8	6.3	1.66	NS
Auditory Decoding	11.0	9.6	1.11	NS

The Hub School Wave II children were again tested with the ITPA and PPVT at entrance to kindergarten in September 1965. Table IX shows no significant differences between experimentals and controls on either the PPVT IQ or the ITPA LQ. Only on Motor Encoding and Auditory Decoding were there significant differences favoring the experimentals.

TABLE IX

Performance on Various Criterion Variables of Wave II Experimental and Control Groups at Entrance to Kindergarten Level, Fall 1965

Variable	Experimental (n-35)	Control (n-11)*	"t"	Significance Level
PPVT IQ	81.5	77.2	.66	NS
ITPA LQ	88.2	82.5	.96	NS
Auditory-Vocal Automatic	6.7	6.1	.79	NS
Visual Decoding	8.2	9.3	—.93	NS
Motor Encoding	10.6	8.7	1.72	.10
Auditory-Vocal Association	10.9	10.0	.66	NS
Visual-Motor Sequencing	8.1	7.0	1.07	NS
Vocal Encoding	10.7	9.8	.55	NS
Auditory-Vocal Sequencing	15.7	14.1	.66	NS
Visual-Motor Association	11.7	9.9	1.09	NS
Auditory Decoding	14.7	12.3	1.83	.08

* Only 11 of the original 27 controls remained at the time of the second testing.

Table IX shows some attrition in the control group between the two tets administrations. Sixteen of the original 27 controls had moved during that period. An analysis of the data indicate that the controls who were lost tended to perform higher on the first tests than the controls who remained. In all probability, therefore, the controls would have performed better on the second testing if they had remained intact. Most likely the Motor Encoding and Auditory Decoding superiority of the experimentals would have been erased if the entire control group could have been tested. The lack of significant differences between both groups, however, would have remained.

A comparison of Tables VIII and IX shows ITPA LQ gains for experimentals and controls and decreases in PPVT IQ scores for both groups. Neither of these changes is statistically significant.

The test scores of Wave I and Wave II groups after one school year of nursery experiences show that:

(1) Wave I experimentals were statistically superior to their controls only on the PPVT IQ and Visual Decoding;

(2) Wave II experimentals were statistically superior to their controls only on Motor Encoding and Auditory Decoding;

(3) the trend of Wave I and Wave II PPVT IQ and ITPA LQ scores favored the experimentals;

(4) the trend of 6 out of 9 ITPA subtests for Wave I and 8 out of 9 subtests for Wave II favored the experimentals.

V

IN-SERVICE TRAINING PROGRAMS

Between a demonstration program's primary concern about what is to be demonstrated and its final concern over what has resulted, is a major commitment to train those who will be responsible for implementing the program. In the case of the Preschool and Primary Education Project, the principal agents of the demonstration are teachers and social workers. To a lesser extent, administrative coordinators, teacher aides, volunteer casework interns, and non- or semi-professional volunteer classroom aides are included. Although these latter groups have been involved to varying degrees in training or orientation programs conducted by the staff, the major commitment of the project's training resources has been to teachers and social workers.

Prior to each summer preschool program (summers of 1964 and 1965) and to the commencement of the social work-parent education programs in the fall, the project conducted one and two week training programs. Closely tied in with these have been monthly staff visits and meetings at each project site and, in the case of social workers, periodic one day area meetings. A brief review of the training programs follows.

Nursery Workshop (June 1964)

A two week training program was conducted at the project's Hub School in the Centennial School District. The content of this workshop was reported in the project's previous annual publication.[6] At the completion of the workshop, teachers and their aides were asked to evaluate the program and suggest improvements for future workshops. Their suggestions included (1) shortening the length of the workshop, (2) providing opportunities for observing preschool children in a school setting, (3) planning for more individual conferences during the workshop, and (4) getting down to some very specific and basic content and procedures during the training program.

Nursery Workshop (June 1965)

Based on these suggestions, a one week program for new teachers and their aides was conducted at the project school in Harrisburg. This was planned and led by one of the project's continuing teachers. The program appears in Appendix B. The workshop included:

- observations (with allowance for participation) of an actual nursery program;
- specific attention to some of the main curricula areas of the typical nursery program;

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[6] *Progress Report, 1963-64: Op. cit.*

- time set aside for individual conferences with teachers;
- background and orientation to preschool programs and the Preschool and Primary Education Project in particular.

Participants in the 1964 and 1965 nursery workshops were asked at the conclusion of their workshops to evaluate the program. Their response to two of the questions are shown in Tables X and XI. While both groups of participants indicated a similar and high level of satisfaction with the workshop programs, the 1965 participants apparently felt somewhat less prepared for their summer teaching program than did their 1964 counterparts. A variety of reasons were given by the 1965 participants for not feeling more prepared, but hardly any two individuals gave the same reasons. While the staff could conjecture that the shortening of the workshop period from two weeks in 1964 to one week in 1965 might somehow be related to the teachers' lower evaluation of their preparation, a closer investigation will be undertaken both to improve future workshops and to see what relationships, if any, teacher workshop evaluations have with child performance measures.

TABLE X

Workshop Program Ratings of 1964 and 1965 Nursery Workshops by Teacher Participants

Question: Over-all, how would you rate the workshop program in which you participated?

	1964 Nursery Group Percent	1965 Nursery Group Percent
Excellent	50	42
Highly Satisfactory	33	33
Satisfactory	17	25
Less than Satisfactory	0	0
Poor	0	0

TABLE XI

Preparedness Ratings of 1964 and 1965 Nursery Workshops By Teacher Participants

Question: How well prepared has the workshop made you feel for your summer teaching experience?

	1964 Nursery Group Percent	1965 Nursery Group Percent
Extremely Prepared	17	8
Highly Prepared	58	25
Fairly Prepared	17	67
Not Too Prepared	8	0
Not Prepared	0	0

Pre-Kindergarten Workshop (June 1965)

During the past year an experimental curriculum was developed by the project staff for "try-out" and evaluation (see pages 35-37) at the kindergarten level during the 1965-66 school year. The four day workshop program developed for the teachers who would be using this experimental curriculum was conducted at the Hub School and at a demonstration school in Pottstown. Attending the workshop were the continuing project teachers as well as a group of teachers added to the kindergarten substudy.[7]

As the nature of the experimental curriculum indicates, a very high order of intellectual discipline and managerial skill is demanded of the teachers. They are required to match and sequence activities according to specific diagnoses, to deploy and shift children around a variety of activity "stations" according to each child's remedial needs, and to structure the classroom to permit these activities to go on simultaneously, with a minimum of confusion or distraction. The training program, being concerned with both theory and classroom procedures, included:

- a study of a curriculum guide developed for the ITPA program;
- theoretical presentations providing the rationale for the program and a description and explanation of its principal conceptual components;
- demonstrations and discussions of the manner in which the experimental program operates;
- specific assistance to teachers in planning and preparing to work with the new program.

Perhaps because most of the teachers had been with the project for a year, the workshop received higher evaluations than the staff would have expected under the circumstances. More than 75 per cent of the teachers gave the workshop the two highest ratings possible and, at the same time, indicated that they felt at least "fairly prepared" for their future duties.

Parent Education Workshop (October 1964)

To provide some background and orientation for teachers and social workers who would be developing and conducting parent education programs plus various family services, a one week workshop was held in the early fall of 1964. The teachers had just completed their nursery teaching assignments the previous summer, but many of the social workers had only recently joined the project. To both parties, the type of parent education programs they would be developing was new and without many established precedents. For teachers, working intensively with adults and adult groups was generally outside their experience and training. For social workers, some of whom had either only recently graduated from social work programs or had been recruited from public assistance offices, working in preschool settings and with adult groups was also a new experience.

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[7] Thirteen additional kindergarten teachers were brought into the substudy design for the experimental curriculum. Some of these teachers were designated as experimental teachers and others as control teachers. The experimental teachers, drawn from Pottstown and the Centennial School System, attended the Pre-Kindergarten Workshop.

Although the staff knew of many experts in specialized facets of parent education (e.g., mental health, family counseling), few programs or resources seemed geared to the type of parent education effort the project was preparing to launch. In addition, although parent education adjuncts to preschool projects throughout the country were fairly common, research and demonstration projects in this particular field were almost nonexistent. Given this situation, the design of the training program reflected more the hunches of the staff than a practicuum carefully derived from theory or research. The principal components of the workshop, therefore, included consideration of:

- the salient characteristics of the disadvantaged family;
- significant features of normal child growth and development;
- the ways in which teachers and social workers could work together;
- some techniques and methods, derived from social work, of working with low socio-economic families (e.g., home visits, case conferences, family life education);
- a variety of content and approaches that might be employed in developing and working with parent groups.

Since the training program lacked the type of focus which could help the teachers and social workers develop precise plans, the staff was not surprised that the most commonly expressed need of the participants was for specific guidance when they returned to their home communities. This, coupled with the fact that few participants indicated feeling more than "fairly prepared" for undertaking their programs, placed the main burden of program development in the assistance and supervision the staff could provide during the year. The programs that resulted and the evaluation made of them have been previously described.

VI

EVALUATION SUMMARY AND PLANS

Research Difficulties and Limitations

The Preschool and Primary Education Project is funded as a demonstration project. Many of the difficulties of the project are due to expectations as to what a demonstration project should do. On one hand, a demonstration is expected to utilize research and evaluation findings in developing new programs for subsequent field trials and evaluations. On the other hand, it is also expected to prove itself to the practitioner by being workable in a natural setting. While it is possible at times to walk a line between both expectations, an inherent contradiction exists between the two, making it impossible at other times to satisfy both. To evaluate programs, control of all variables is essential, and this must usually be performed by a researcher. Yet to prove the marketability of programs, they must be shown as administratively and instructionally operable and adaptable under various circumstances and situations. However, the conflict between the controls and uniform operating conditions necessary for the researcher and the adaptability and manageability needed by the administrator often produce a compromise. This results in lowered research standards and a less than salable commodity.

A case in point is the perennial conflict over class size. Prior to kindergarten, the research needs of the project and the administrative needs of the school system were satisfied with a teacher-pupil ratio of 1:20. The research needed to maintain this ratio as the project children entered kindergarten, but this conflicted with the administrative needs and requirements of the school system which demanded ratios as high as 1:32. If this were the only conflict, its resolution could probably be handled statistically. Unfortunately, research uniformity needs are violated on several operating procedures ranging from the unevenness of instructional materials available and utilization of teacher aides to deviations in following selection criteria, randomizing groups, and keeping control groups uncontaminated.

Over the past year, however, the primary research limitation of the project has not been the lack of optimal operating conditions and standards of treatment. Rather, it was the lack of adequate controls on the test administration itself that proved to be the project's severest research limitation.

The main control lacking in the administration of the testing program was that over the 15 testers employed. More than 1500 children in seven project centers were tested in the spring and summer of 1965. However, in some centers, only one or two testers administered all the tests. The obvious fault in this procedure was that any differences between centers or even between treatments within a center could be attributed to tester variability. As the previous data show, therefore, the only comparisons tested for significance were those where the tester variables could be controlled. Comparisons could not be made, for example, between experimental children and "pure" control children because of this testing variability.

Other inadequacies in the test administration are probably not too uncommon to either wide-scale testing programs or testing with preschool-age children. Testing of all children at the same time and under the same conditions was not always possible. Broken appointments, children who could not be located, and wide disparities in testing facilities threw some of the testing off schedule and did not encourage, in other instances, the best possible test performances from the children.

The testing of preschool children is, at best, an uncertain and hazardous affair. Many of the children tested were observed to be intimidated and overwhelmed in the testing situation. Some were so inhibited that they failed to respond to a large number of questions. Factors such as these undoubtedly depress the performance level of children from educationally deprived backgrounds. Coupled with this subpar performance due to a strange and unfamiliar situation is the fact that relatively little is known of either the validity or reliability of the ITPA and PPVT for this population. Although this same statement could probably be made of other well known test instruments, it still suggests the need to reserve judgments on test scores until children can be tested later on in the primary grades.

Summary of Findings

From the preceding, certain summary statements can be made about the results of the project thus far.

(1) Viewed in its entirety, the project has achieved some statistically significant differences for its experimental population when compared with its control population.

(2) On most comparisons between experimental and control subjects, statistically significant differences do not occur.

(3) The effects of both a school year nursery program (Hub School) and the summer nursery and follow-through program are highly similar.

(4) No significant difference exists at entrance to first grade between experimentals and controls along the criterion variables measured by the project (i.e., Metropolitan Readiness Test).

(5) There is no evidence to show that the social work-parent education program produces statistically significant differences along the criterion variables measured by the project.

(6) Because of the research problems encountered by the project, only cautious and qualified inferences from statistical data are warranted at this time.

Future Evaluation Design

The PPVT and the ITPA used in this study as *immediate* criteria are of value in this capacity only if they correlate with subsequent school performance, the ultimate criterion of this program (see Appendix D for reliability and validity coefficients of both tests). As the children enter first grade, the Metropolitan Readiness Test will be administered and the performance of the experimental and control groups compared on the variables measured. Since findings with this instrument correlate highly with achievement test performance at the end of first grade (.63 Stanford Achievement Total, .64 Metropolitan Achievement Total), it constitutes a relatively valid *intermediate* criterion.

Since the Metropolitan Readiness Test was administered to all Wave I (n-38) children at the Hub School, the staff was able to do a preliminary study of the predictive validity, for school readiness, of the ITPA and

PPVT. The Metropolitan Readiness Test total score was found to correlate .68 with the ITPA LQ and .41 with the PPVT IQ. When the ITPA LQ and PPVT IQ scores were combined (in a multiple correlation) the correlation was .68.

The preceding indicates that the ITPA is probably a good predictor of school readiness as measured by the Metropolitan and therefore constitutes a relatively valid *immediate* criterion. The criterion value of the PPVT, however, is less certain. It neither correlates highly with the Metropolitan nor increases the ITPA correlation when combined with the latter. Furthermore, since the PPVT and the ITPA correlate .69 (see Appendix E) with one another, the use of the PPVT may prove to be superfluous as an immediate criterion. One further year of study and cross validation will be necessary, however, to bear this out.

At the end of the first, second, and third grade, both achievement test performances and teacher ratings of experimental and control children will be contrasted. These measures of school success plus attitudinal data will serve to provide the *ultimate* criteria of the study. In summary, the evaluation criteria for the project can be described as:

(1) Immediate —ITPA and PPVT
(2) Intermediate —Metropolitan Readiness Test
(3) Ultimate —Achievement test, teacher rating, grades and student attitude.

VII

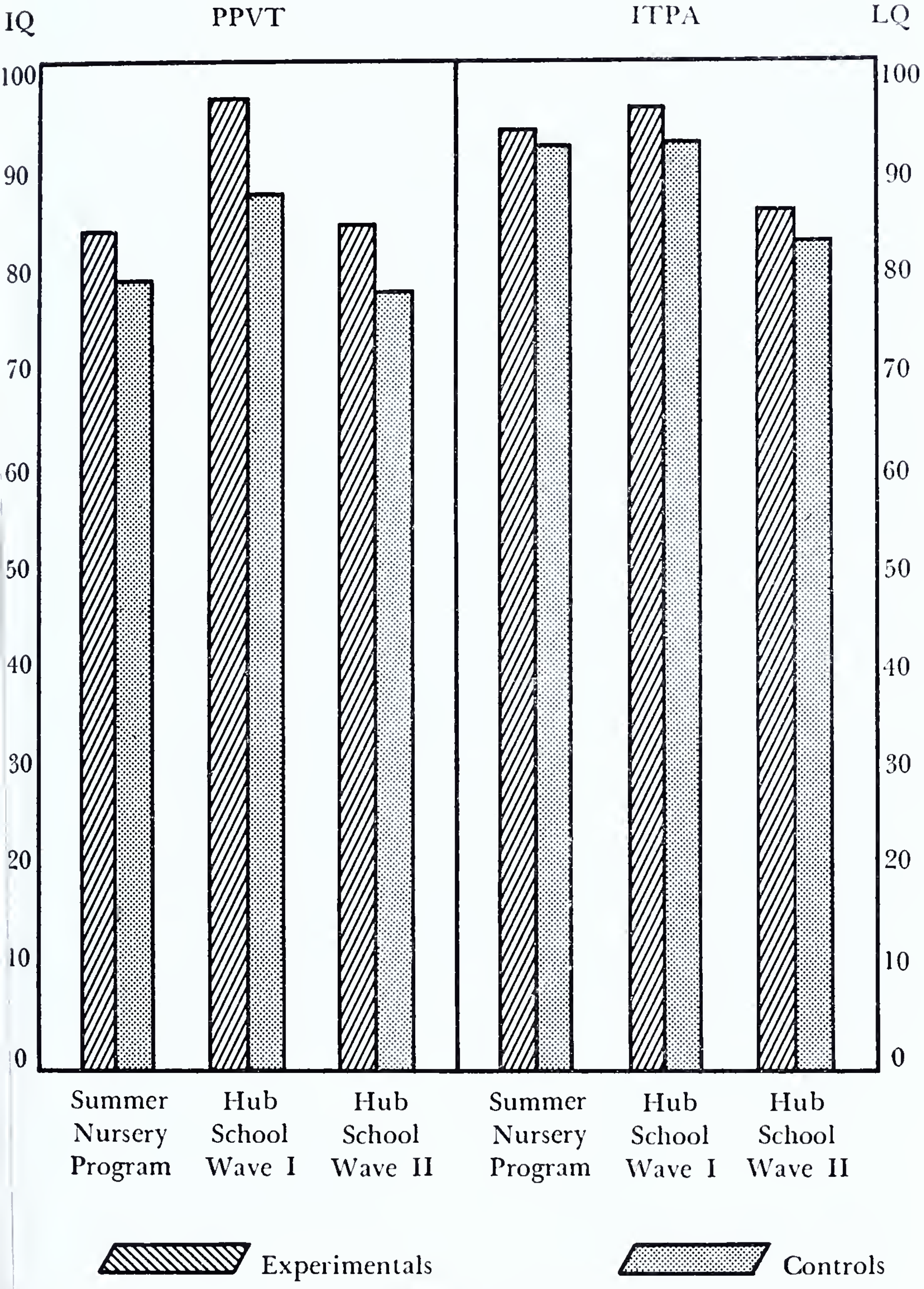
COMPARISONS AND IMPLICATIONS

Summary of Project Comparisons

The evaluation data in this report have been used to compare experimental and control children from the same environment. Figure 1 summarizes the principal comparisons made in both the summer nursery and follow-through program and the Hub School. Although this graphic comparison shows a trend in favor of the experimentals, discussion of the evaluation findings has definitely suggested cautious inference.

*FIGURE 1**

Comparisons on PPVT IQ and ITPA LQ in Summer Nursery and Follow-Through Program and in Hub School of Experimentals and Controls at Entrance to Kindergarten



Comparisons drawn from data shown in Tables IV, VI, and IX.

Comparisons with Norm Groups

One other strong reason for this caution can be derived by comparing the ITPA and PPVT performances of the project's experimental children with the performances of the norm groups established for both of these tests. On the PPVT the experimentals in the summer projects had, at entrance into kindergarten, an average IQ of 81.7. The IQ established for the norm group was 100. Compared to the norm group, the project's experimental population would rank on the eleventh percentile of the PPVT.

As Table XII shows, on the ITPA Language Quotient and on 8 of 9 ITPA subtests, the experimental group failed to reach even the fiftieth percentile. In fact, the experimentals, with a mean ITPA raw score of 98.9, ranked on the eighteenth percentile compared with the norm population. One qualification, however, should be made. The experimental percentile ranking may be artificially suppressed due to the large standard deviation of the experimental group, which is almost twice that of the norm group.

TABLE XII

Comparison of the ITPA Performances of the Summer Experimental Group with the Norm Group (All SES)

	Norm Group* (n-50)		Experimental Group* (n-198)		
	Mean Raw Score	Standard Deviation	Mean Raw Score	Standard Deviation	Percentile of Norm Group
ITPA—Total	115.24	17.50	98.9	25.9	18
Auditory-Vocal Automatic	9.5	3.4	6.4	3.4	18
Visual Decoding	10.2	3.9	9.8	3.6	45
Motor Encoding	11.2	3.4	11.6	4.1	55
Auditory-Vocal Association	12.9	3.2	10.9	4.2	27
Visual-Motor Sequencing .	11.6	3.4	8.4	4.0	17
Vocal Encoding	11.4	4.3	10.9	3.9	45
Auditory-Vocal Sequencing	18.7	5.4	15.9	5.5	31
Visual-Motor Association .	11.4	3.5	10.9	4.3	44
Auditory Decoding	17.9	4.7	14.3	6.4	22

* The norm group had a slightly higher chronological age range (4-10 to 5-2) than the experimental group (4-10).

Comparisons with Other Projects

It is extremely unfortunate that objective evaluation findings from the vast majority of other preschool projects in the country are not available. If they were, they would be of immense value in helping to economize on efforts to raise program quality. Test information was obtained only for two preschool demonstration projects similar to the Preschool and Primary Education Project. These projects were the Early Training

Project[8] conducted in the Murfreesboro (Tennessee) City Schools and the Perry Preschool Project[9] operating in the Ypsilanti (Michigan) Public Schools. The design of the Early Training Project is similar to that of the project's summer schools while the Perry Preschool Project parallels the Hub School program.

The first experimental group (22 children) in the Early Training Project was exposed to both a 10 week summer program and a year long intensive parent education program (no social work program however). The chronological ages and Peabody mental ages of the children in this project were similar to those of the summer project children. The content of the programs in both projects appears alike, although the reports of the Early Training Project suggest a greater focus in programming of language activities.

Following the first year's work, children in the Early Training Project were tested along with three control groups with the Stanford-Binet and the PPVT. Although no statistical analyses of the data were carried out at that time (May 1963), the results seem to indicate:

(1) IQ gains for all groups, with perhaps a slight edge toward the experimental group over most of the control groups;

(2) all groups, including the experimental group, were at a similarly low percentile level (comparable to the Preschool and Primary Education Project summer project groups) when compared to the Peabody norm group at the time of the first post-testing.

In September 1964, when experimentals and controls entered first grade, the experimentals had a significant superiority over the controls on the Stanford-Binet, ITPA, and PPVT. As the directors of the Early Training Project, however, are quick to point out in their report: ". . . crucial comparisons must wait until the youngsters . . . are well into their school programs."

One of the Perry Preschool Project's groups, comparable to the Preschool and Primary Education Project's Wave I at the Hub School, contained 13 children who were given a regular school year nursery program and kindergarten program. Along with the school program was an intensive parent education program although, apparently, no social work program. At the completion of kindergarten, both experimentals (15) and controls were tested with the ITPA, PPVT, and the Gates Reading Readiness Test. The results indicated:

(1) no significant difference between the experimental and controls on the PPVT IQ, ITPA IQ, or the over-all Gates Reading Readiness Test scores;

(2) all groups, experimental and control, were well below the norms established for these tests.

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[8] Comparisons have been made from data obtained in the *Interim Report-November 1963* of the Early Training Project.

[9] Comparisons have been made from data obtained in the *Progress Report-June 1964* of the Perry Preschool Project.

While the directors of the Perry Preschool Project feel that the general trend of test scores favors the experimental group, they caution readers to withhold final interpretations of data at this point.

While the experimental "enrichment" nursery program conducted in Indianapolis, Indiana,[10] for a seven month period in 1964 is not exactly parallel to the Preschool and Primary Education Project's Wave II at the Hub School, it was the closest comparable study available. The Indianapolis program enrolled 15 children from low-income families in 98 two-hour nursery sessions with three adults in attendance (versus about 120 two and a half hour sessions for Wave II with two adults). In addition, a parent program ran concurrently with the nursery program. The 15 experimental children along with 15 in a matched control group were both pre- and post-tested with the Stanford-Binet and a modified Metropolitan Readiness Test. The results showed no statistically significant difference between the groups on any test or subtest comparisons.

The director of the evaluation program for the Indianapolis project concludes that the project's findings raise serious questions concerning the value of nursery "enrichment" programs. He suggests, however, that more appropriate measurements of its value will have to wait for comparisons of actual school performance after both groups of children have attended the early school grades.

It would be unfair to the above projects to suggest that they are not obtaining any significant results. Some of them definitely are, as a review of their reports indicates. Nevertheless, in comparisons between groups in these projects and similar groups in the Preschool and Primary Education Project *along comparable criterion measures,* results, at this point, are much alike. These results definitely indicate, at the very most, a slight, though significant, trend in favor of some children attending preschool programs and, at the very least, no measurable effect whatsoever.

Program Implications

What is and will continue to be important in the Preschool and Primary Education Project is the academic performance of children exposed to the various project programs as they enter and proceed through the early school grades. At this moment, it would be unwise to make predictions about the future test and school performance of the project's children. Furthermore, while the general trend of test scores for the project children now in kindergarten show them excelling their controls, the differences in almost all cases are not significant. Finally, those differences that exist are diminished by the fact that the great majority of project children are still not safely within the 90-110 IQ range considered necessary for academic success.

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[10] Comparisons have been made from data obtained in a preliminary report, *The Failure of a Nursery School Enrichment Program for Culturally Disadvantaged Children,* Indiana University Medical School, Indianapolis, Ind., 1965.

The major question facing the staff, then, is how to achieve greater intellectual gains during the preschool years and have these gains persist into the primary grades. The answer to the question would appear to be in a course of action characterized by better focus and more disciplined effort.

Accordingly, one line of investigation and "try out" is currently being undertaken with an experimental curriculum at the kindergarten level. This program is designed to arrest many of the perceptual, cognitive, and linguistic deficits evidenced in the project's children. Using the Illinois Test of Psycholinguistic Abilities as its principal diagnostic instrument, the program initially establishes each child's specific level of functioning in each of the nine areas measured by the ITPA (see Appendix A). This level of functioning is charted on a diagnostic class sheet by each teacher. She then proceeds to verify or revise the diagnosis on the basis of her own observations of the child's performance along an ordered and sequenced series of classroom activities.

Once a firm diagnosis of each child's perceptual, cognitive, and language strengths and weaknesses has been established, which usually takes from six to eight weeks, the classroom routine is structured to allow at least one hour a day for specific and remedial program stimulation in each child's area of psycholinguistic weakness. In actual classroom practice, each teacher has had to set up a series of learning "stations" or "docks" to which groups of similarly diagnosed children are sent during portions of the day. Each of these stations contains specific materials, games, exercises, or activities designed for the correction of a certain *level* and *area* of psycholinguistic malfunctioning.

As might be suspected, the management of this type of program requires a high degree of ordered and precise thinking on the part of the teacher. She must also exercise ingenuity, patience, and skill in moving groups of children to, and keeping them at, various stations during that part of the day devoted to this program. Many teachers will set up corners for visual decoding, motor encoding, visual-motor association, and visual-motor sequencing, each corner to operate with a minimum of adult supervision. Once the children are taught to work here alone at their tasks, the teacher is freed to work with children in auditory and vocal programming. As the children master the tasks set before them, the level of difficulty of these tasks is increased. For example, at the visual decoding station a child who has learned to discriminate among colors through various sorting activities might then be asked to sort a variety of geometrical figures, From this he would ordinarily progress through a series of activities until he could visually discriminate letters, words, and sentences (e.g., "b" from "d"; "then" from "than"; and "the boys jump" from "the boy jumps").

The progression of activities at any one psycholinguistic station will generally follow some hypothesized conceptual schemata for the development of that particular skill. An example of this in auditory decoding would require activities to be scaled along the following continuum:

Acuity	Ability to hear (loud and soft)
Gross Sound Discrimination	Ability to hear differences between sounds (whistle, bark)
Fine Labeling of Sounds	Ability to label by sound (train, dog)
Fine Sound Discrimination	Ability to discriminate between words (jail, bail, hail, nail)
Single Word Recognition	Ability to hear and understand words (hear the word "apple" and relate it to the real object)
Sentence and Question Recognition	Ability to hear and understand a broad range of simple and complex sentences and questions (Come here! Where is the ball? Go to the front door, open it, and take two steps outside)
Sustained Listening to Complex Connected Speech	Ability to understand a story, a narrative, an explanation, a description, or other sequencing of words commonly used in school situations

Quite early in the new program it became evident that the schemata could be used only as guidelines—that the development of any particular psycholinguistic skill does not necessarily follow in an ordered and logical progression. For instance, many children may function with some degree of effectiveness on all levels of a particular skill so that remedial activities must be discrete and selective. Furthermore, it may be necessary to constantly return to lower operating levels to reinforce, strengthen, and enlarge the various functioning abilities of the children. A child may be competent enough with certain sight or sound discriminations to operate in some areas, but still have to return to earlier discrimination tasks in order to operate with greater effectiveness on more difficult levels. In short, a cyclical or spiraling process of skill development appears to be involved up and down the entire skill continuum.

The program as it is being developed is actually an adaptation of an approach used in some schools for the mentally retarded, especially the Joseph P. Kennedy School in Palos Park, Illinois. The program runs counter to many prevailing theories and ideas of what should be done in a kindergarten, or the type of program to which disadvantaged children should be exposed. In its diagnostic, corrective, and highly structured approach, the experimental program differs from the average kindergarten. The latter proceeds from assumptions and knowledge of child development needs, a concern with general enrichment for the "total" child, and a permissive and exploratory environment. It should be understood, however, that the experimental program consumes only a modest time allotment of the regular kindergarten day (normally one hour out of a two and a half hour day). If subsequent evaluation of the program (including an assessment of the social and psychological gains and costs of the program) justifies more extensive experimental effort in the future, the project may very well attempt not only to increase its use at the kindergarten level but also to adapt parts of it for the project nursery programs.

The evaluation program upon which such decisions rest consists of a project and control kindergarten population of more than 900 children. This population includes both continuing project children and additional groups of entering kindergarten children (without, for the most part, any preschool experience) in Pottstown and the Centennial School District. Most of these additional children meet the criteria established for the project, but a few classes of middle socio-economic children have been included for comparative purposes.

The evaluation program began with the administration of the ITPA and PPVT to the entire experimental and control population during the summer of 1965. All experimental teachers received copies of the test profiles for each child in their class so that they could proceed with further diagnosis and verification in their classrooms. A workshop (see pages 25-26) for the experimental teachers was conducted prior to the summer, and another one was planned for early October. Arrangements were also made for some training and supervision of control teachers during the school year. Whenever possible, the staff has attempted to equalize factors that could influence the results, such as class size and aides. However, maintaining the purity of wide-scale research in natural settings is obviously limited.

At the end of the school year, all children will be tested with measures of reading readiness. Results will be analyzed to compare the effects of the experimental and conventional programs on the children's test scores. This exploratory substudy will seek to discover the specific combinations of programs and preschool experiences that give the most significant reading readiness test results. Plans are to replicate the study in future years (with appropriate program modifications) and to continue with follow-up evaluations of each wave of substudy subjects during the primary grades.

As the project enters its third year, the most clearly delineated developmental change is with the experimental kindergarten curriculum. However, the social work-parent education program is also undergoing extensive restructuring. As previously shown, no significant language or intelligence quotient effects were attributable to the social work-parent education programs conducted during the past year in Harrisburg or Chester. In an attempt to produce significant differences in the third year, several changes of emphasis, structure, and focus have been made.

For one, the focus of the social work-parent education programs has been redirected to the project child. Reports from the past year indicated a tendency of teachers and social workers to work with any and sometimes all of the problems within project families. Often, programs developed for the parents had only a tenuous and marginal relationship to producing the types of behavioral changes that would directly affect the child's cognitive orientation. Increasingly, research studies[11,12] are pointing to the significance of the linguistic and cognitive aspects of the home environment or, more specifically, to the mother's language as a mediator in the child's linguistic and conceptual development. In redirecting the efforts of teachers and social workers to aspects of family behavior directly relevant to the improvement of the child's cognitive and linguistic functioning, therefore, more attention will be given to the child's intellectual home environment.

Second, and related to this change of focus, teachers and social workers have been asked to select one major approach for working with parents and to sustain this throughout the year. During the previous year, a high degree of eclecticism and exploration with different approaches was used (see pages 9-10) so that it was impossible to make comparative assessments or come to a fuller understanding of the possibilities and problems of any one approach. Present information indicates that all three approaches noted previously in this report's review of parent education programs (see pages 9-14) will be represented.

Third, the role of the social worker is being clarified and specified to provide a better mesh of casework services with child growth and development problems. Heretofore, the social worker started with a diagnosis of family problems. Then, assuming that all family problems were relevant in bringing about beneficial changes in the home climate (and therefore, in the project child's educational functioning) he proceeded to treat or obtain treatment for these problems. Without necessarily challenging this assumption, the staff came to recognize that the social worker could not do an effective job if he had to work with all family problems. Even before adding a new group of 280 families to the project this past summer, more than 300 families were enrolled in the project, and these families consisted of more than 2000 individuals. Almost 600 problems (or an average of two per family) needing one type of treatment or another were identified by the social workers. Without a better clarification and focus for casework services, it simply was not realistic to believe that the project's seven social workers could find the time or energy to deal effectively with all these problems.

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[11] Hess, R.; Olim, E., and Shipman, V.: *Maternal Language Styles and Their Implications for Children's Cognitive Development*, Urban Child Study Center, University of Chicago, Chicago, Ill., 1964.

[12] Wolf, R. M.: *The Identification and Measurement of Environmental Process Variables Related to Intelligence*, Unpublished doctoral dissertation, University of Chicago, Chicago, Ill., 1964.

This role change will require of the social worker: (a) a greater insight into, and understanding of, the roots of child behavior disorders; (b) a closer relationship with the teacher to secure information on child behavior patterns; (c) more careful analysis of the types of family problems that are most likely affecting the child's educational functioning; and (d) intervention *only* in those problems bearing directly on the child's educational disabilities. Many difficult problems must be grappled with in bringing about this change in role; a change, however, will provide the social worker with a means of determining priorities and sorting out his work load.

Finally, a definite quantity of contacts with each project parent has been established for the entire parent program. As far as possible, every project parent must have a minimum of two school or social work contacts each month. This means that, if a parent fails to attend planned meetings of one type or another during a particular month, the teacher or the social worker will go to that parent's home. Establishing a minimum insures, at the very least, that the project personnel will have some current knowledge of what is happening with every parent.

Policy Implications

The main policy concern of the Preschool and Primary Education Project is how to effect the adoption of significant project findings by school systems. Assuming that most, or even some, of the project results prove worthy of adoption or adaptation by school systems, the principal problem, then, is determining the strategy for bringing about institutional change without watering down the project's findings. In short, spread of results without slippage in quality.

Wide-scale adoption of the project's findings will not simply follow the publication of the project's recommendations. Good ideas don't always prevail just because they are good ideas. What is required is acceptance of the project's findings by those in a position to act upon them. Although the findings and recommendations of the project are by no means crystalized yet, potentially they can affect school practices, regulatory codes, and legislative enactments. The audience for these recommendations, therefore, will conceivably consist of the Governor, the Pennsylvania General Assembly, various state agencies, and local school systems.

Table XIII lists the principal avenues through which the project can address these audiences. Through the Governor's Council for Human Services, the project can work for eventual legislative enactment. The Interdepartmental Committee on Compensatory Preschool Programs can cooperate with the project on policy and regulatory recommendations to both the Council for Human Services and various state agencies. The project can work with the Compensatory Preschool Education Committee in the Department of Public Instruction to improve regula-

TABLE XIII

Policy and Decision-making Channels for Findings and Recommendations of Preschool and Primary Education Project

Contacts for Project Findings and Recommendations	Membership	Principal Function	Receivers of Recommendations	Possible Action
Governor's Council for Human Services	Cabinet officers of state departments	Formulation of policy recommendations	Governor and General Assembly	Legislative enactment
Interdepartmental Committee on Compensatory Preschool Programs	Bureau directors in Departments of Public Instruction, Health, and Public Welfare	Coordination and consultation on interdepartmental aspects of preschool programs	Council for Human Services and state agencies	Policy and regulatory enactments
Compensatory Preschool Education Committee	Specialists in Department of Public Instruction	Development and recommendations on preschool programs	State Board of Education, Superintendent of Public Instruction	Proposing changes in or additions to, existing regulations
Technical Assistance Services	Three-man interdisciplinary preschool team	Advice, information, guidance	School districts	Improving school practices

tions governing preschool programs, and utilizing a recently created technical assistance service the project can have an immediate effect on local school district practices.

Organization charts, however, only reveal the surface of the decision-making machinery. Many issues and problems must be resolved before the project's findings and recommendations can be translated into legislation, regulations, and practices. The principal issues and problems concern jurisdiction over programs and services both among and between various state agencies and between the state and federal government. The rulings and interpretations which are now resulting from recent federal legislation (i. e., the Economic Opportunity Act and the Elementary and Secondary Education Act) will, it is hoped, suggest the particular decision-making avenues the project should follow. Given, however, the current confusion and fragmentation of efforts in preschool policy formulation, the staff is not at all certain that any recommendations it would make through or to any official body at this time would be relevant, appropriate, or therefore, wise.

Nevertheless, it would be wrong to suggest that no progress in the preschool field has been made over the past year. The project staff was instrumental in the formulation of preschool guidelines for use by Pennsylvania school districts conducting federally funded preschool programs. The project was able to negotiate a grant whereby field assistance could be given to school districts planning to carry on compensatory preschool programs. Guidance and advice were provided by the project staff to the Office of Economic Opportunity to institutions developing teacher training programs and to various state agencies responsible for the administration of certain facets of preschool programs. Finally, the staff has had a major responsibility in the screening and approval of Headstart programs, together with assisting in the development of some of these programs.

Assuming that channels for effective decision-making can be clarified over the succeeding years, it could reasonably be expected that the project would be able to make significant recommendations affecting such matters as:

- teacher training and utilization in preschool programs;
- the utilization, training, supervision, and financial support of social workers in preschool programs;
- the structure and design of compensatory preschool programs;
- the administrative and fiscal relationships between the state and local systems, which would encourage the establishment and maintenance of quality programs;
- the standards and regulations which might be suitable for insuring a satisfactory, if not better, quality of on-going programs;
- those sections of the school code and the subsidy formulas which might be revised to encourage quality preschool programs.

The nature of the project's recommendations, however, as has been indicated throughout this report, will have to await the findings of the several experimental studies currently underway. During the interim period, the project staff will continue to assist other school districts in establishing preschool programs and continue to work for the improvement of the state's needs for better coordinated preschool policy mechanisms.

APPENDIXES

APPENDIX A

The Illinois Test of Psycholinguistic Abilities

Psycholinguistic abilities, according to the theory behind the ITPA, are divided into three major dimensions and must be specified in each of these dimensions. The first is *Levels of Organization.* Some psycholinguistic activities exhibited by humans appear to demand much higher levels of organization than others. Utilizing the ITPA theory, normal acquisition and use of language depends on two levels:

(1) the representational level, which is sufficiently organized to mediate activities requiring the meaning or significance of linguistic symbols,

(2) the automatic-sequential level, which mediates activities requiring the retention of linguistic symbol sequences and the execution of automatic habit-chains.

The second dimension is that of *Psycholinguistic Processes.* This dimension encompasses the acquisition and use of the habits required for normal language usage. It is dependent upon learning theory for its complete and adequate explanation. Three main sets of habits have to be considered: Decoding, Encoding, and Association.

(1) Decoding is the sum total of those habits required to ultimately obtain meaning from either visual or auditory linguistic stimuli. These habits are impressive language functions and can be seen in listening and reading.

(2) Encoding is the sum total of those habits required to ultimately express oneself in words or gestures. These habits are expressive language functions, such as speaking and writing.

(3) Association is the sum total of those habits required to manipulate linguistic symbols internally. Association in reading is the mental reconstruction of facts or experiences represented by symbols.

Channels of Communication is the third dimension. This describes the sensory-motor path over which linguistic symbols are received and responded to. It is divided into type of reception and type of response. Reception is broken down into auditory or hearing and visual or seeing. Response is subdivided into vocal and motor.

Thus it may be seen that a psycholinguistic ability can be specified by its three dimensions: level, process, and channel. The tests of the ITPA are divided according to these various dimensions.

Test 1. *Auditory Decoding*: the ability to understand the spoken word. While the standard vocabulary test is perhaps the best possible way to assess this, it is unsuitable for our needs for two reasons: very young children cannot define words in a formal manner, and such a test requires excessive vocal encoding (i. e., talking). If a subject must talk much, failure to define words might be attributable to his inability to comprehend the word, or to express his ideas vocally, or to both reasons. To overcome these objections, a "controlled vocabulary" test was developed in which the subject is presented with a simple question, the answer to which depends upon his knowledge of the words involved more than upon the content: e. g., Do females slumber? Subjects answer all questions with a "yes" or "no" response. It is assumed, therefore, that failure is due to an inability to decode.

Test 2. *Visual Decoding*: the ability to comprehend pictures and written words. Since written words could not be used if the test were to be appropriate for preschool children, a picture test was employed. This test is designed to be the visual counterpart of the Auditory Decoding Test. By a simple pointing response, the subject must indicate that he gets meaning from the pictures.

In practice, the subject is shown a stimulus picture which is then removed. Next he is shown a set of four comparison pictures (one of which is perceptually, rather then physically, similar to the stimulus picture). His task is to select the perceptually similar comparison picture. For example, an office table may be offered as a stimulus picture and a coffee table as the correct comparison picture. Item difficulty is increased not only by using less and less familiar stimulus pictures, but also by making the comparison pictures physically similar to each other or by making an incorrect comparison picture similar to the stimulus picture. Simultaneous exposure of stimulus and comparison pictures is mechanically eliminated so that there is no possibility of selection by matching. All pictures are actual photographs to provide maximum cues and are devoid of background to prevent excessive distraction. Since the subject simply points to the correct comparison picture, encoding is kept at a constantly simple level. Failure is assumed to be due to decoding defects.

Test 3. *Auditory-Vocal Association*: the ability to relate spoken words in a meaningful way. This ability is assessed with a version of the familiar "analogies" test in which the subject must complete the test statement by supplying the related word: e. g., Soup is hot; ice cream is ——————.

Test 4. *Visual-Motor Association*: the ability to relate visual symbols in a meaningful way. In this test, the subject is required to relate pictures of common objects either on a transitional basis (sock goes with shoe) or on a substitutional basis (boys and girls are people). The subject must select from among four pictures the one which "goes with" a given stimulus picture.

Test 5. *Vocal Encoding:* the ability to express ideas in spoken words. Here the subject is asked to describe a simple object, such as a block or ball. His score depends on the number of unique and meaningful ways in which he characterizes a given test object.

Test 6. *Motor Encoding:* the ability to express one's ideas in meaningful gestures. In this test, the subject is shown a picture of an object and asked: "Show me what you should do with this." A few actual objects are included as a concession to the youngest subjects.

Test 7. *Auditory-Vocal Automatic:* the ability that permits one to predict future linguistic events from past experience. It is assessed by requiring the subjects to complete a statement with an inflected word: e.g., Here is an apple. Here are two ———. The nature of the inflection supplied will indicate the ability of the subject to predict what will be said. Linguistically normal children learn these inflections in a rather systematic way. A certain number of errors are expected of children right up to the end of the test, much as normal children continue to make articulation errors up to and beyond the age of 7-0. Only when excessive errors are made is disability inferred.

Test 8. *Auditory-Vocal Sequencing:* the ability to correctly repeat a sequence of symbols. This is a test of immediate auditory recall. It resembles the standard digit repetition test except that (1) digits are uttered at a rate of two per second, which is twice the usual rate, (2) the examiner drops his voice at the end of the digit sequence, (3) sequences are repeated if the subject fails to correctly repeat the original presentation, and (4) some digit sequences contain the same digit twice. The intent of these alterations is to increase the discrimination of the test.

Test 9. *Visual-Motor Sequencing:* the ability to reproduce a sequence of visual stimuli from memory. In order to exclude drawing for young and/or handicapped subjects, a set of small chips is used, each chip having a picture of a geometric form. The examiner arranges the chips in a certain order and allows the subject to observe this order for five seconds. Then he mixes the chips and requires the subject to reproduce the sequence of chips exactly.

Dr. Barbara Bateman reviews the use and studies of the ITPA in *The Illinois Test of Psycholinguistic Abilities in Current Research,* Institute for Research on Exceptional Children, University of Illinois, April 1964. An inspection of this publication reveals the following findings.

(1) Statistical studies have demonstrated the reliability of this instrument.

(2) Each subtest has been demonstrated to measure an independent factor.

(3) The validity of the test has been upheld through factor validity measures.

(4) Focused language programs can significantly increase students' scores in specific subtests and in their over-all language age.

APPENDIX B

Nursery Workshop for New Teachers

THEME: TO INCREASE OUR KNOWLEDGE, UNDERSTANDINGS, AND SKILLS

DATES: June 21, 1965-June 26, 1965

PLACE: Cameron School, Harrisburg School District Harrisburg, Pennsylvania

DIRECTOR: Mrs. Ruth L. Todd, Project Teacher—Harrisburg

PARTICIPANTS: Project Nursery Teachers and Teacher Aides

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Monday, June 21—UNDERSTANDING THE PROGRAM

Morning: Orientation and Overview of Program
Afternoon: The Disadvantaged—Community, Family, and Child
Discussion and Film: "Children Without"

Tuesday, June 22—PRESENTING THE PROGRAM AND MATERIALS

Morning: Observation and Participation in Nursery
Afternoon: (1) Slides of 1964 Program in Harrisburg
(2) Exploring Materials Together

Wednesday, June 23—GUIDING AND ENCOURAGING

Morning: Observation and Participation in Nursery
Afternoon: (1) Science and Music
(2) Film: "Roots of Happiness"

Thursday, June 24—LISTENING AND DEVELOPING LANGUAGE

Morning: Observation and Participation in Nursery
Afternoon: Language of Children

Friday, June 25—QUESTIONS AND ANSWERS

Morning: Records and Research Presentation
Afternoon: Individual Conferences

Saturday, June 26—REVIEW OF 1964-65 SOCIAL WORK-PARENT EDUCATION PROGRAMS

Morning: Presentations of 1964-65 Social Workers
Presentations of 1964-65 Nursery Teachers

APPENDIX C

Comparisons of PPVT and ITPA Performances of Experimental and Control Groups in Each of Six Summer Project Centers, Summer 1965

ALIQUIPPA

Variable	Experimental (n-34)		Control (n-36)		"t"	Significance Level
	Mean	Sd*	Mean	Sd*		
PPVT IQ	85.0	16.6	80.6	21.8	.95	NS
ITPA LQ	98.5	11.7	94.7	17.9	1.06	NS
Auditory-Vocal Automatic	8.4	3.4	7.9	3.3	.62	NS
Visual Decoding	10.0	2.8	10.0	4.1	.00	NS
Motor Encoding	12.6	3.3	12.6	4.2	.00	NS
Auditory-Vocal Association	12.4	3.5	11.3	4.1	1.21	NS
Visual-Motor Sequencing	7.6	2.8	6.8	3.6	1.04	NS
Vocal Encoding	10.8	3.5	9.5	4.9	1.29	NS
Auditory-Vocal Sequencing	18.0	4.8	16.9	6.5	.81	NS
Visual-Motor Association	12.1	3.4	12.0	3.7	.12	NS
Auditory Decoding	13.6	4.6	12.7	5.9	.72	NS

* Standard Deviation

CHESTER

Variable	Experimental (n-34)		Control (n-36)		"t"	Significance Level
	Mean	Sd	Mean	Sd		
PPVT IQ	65.0	20.6	66.1	17.4	–.24*	NS
ITPA LQ	79.4	19.0	78.8	12.9	.15	NS
Auditory-Vocal Automatic	3.9	2.1	3.9	3.2	.00	NS
Visual Decoding	6.9	3.9	6.8	3.6	.11	NS
Motor Encoding	8.6	3.4	7.9	3.0	.89	NS
Auditory-Vocal Association	7.8	4.6	7.7	3.1	.10	NS
Visual-Motor Sequencing	5.6	3.2	5.5	2.6	.14	NS
Vocal Encoding	8.5	3.5	7.9	3.7	.68	NS
Auditory-Vocal Sequencing	16.0	5.6	15.0	5.5	.74	NS
Visual-Motor Association	7.3	4.9	6.7	4.4	.53	NS
Auditory Decoding	10.9	6.5	10.6	6.5	.19	NS

* A minus (–) "t" value favors the control group.

ERIE

Variable	Experimental (n-28)		Control (n-33)		"t"	Significance Level
	Mean	Sd	Mean	Sd		
PPVT IQ	87.8	16.6	91.0	12.7	–.83	NS
ITPA LQ	97.2	14.5	96.2	12.9	.28	NS
Auditory-Vocal Automatic	7.0	3.1	8.3	3.1	–1.64	NS
Visual Decoding	10.4	3.6	11.1	3.0	–.82	NS
Motor Encoding	11.4	3.6	11.2	4.0	.21	NS
Auditory-Vocal Association	10.4	3.6	12.6	3.4	–2.44	.02
Visual-Motor Sequencing	12.9	4.7	11.4	3.2	1.43	NS
Vocal Encoding	10.8	3.2	8.9	2.8	2.47	.02
Auditory-Vocal Sequencing	18.1	3.8	20.1	5.1	–1.75	.10
Visual-Motor Association	11.8	3.2	10.9	3.7	1.04	NS
Auditory Decoding	13.2	4.0	17.2	4.8	–3.14	.01

Comparisons of PPVT and ITPA Performances of Experimental and Control Groups in Each of Six Summer Project Centers, Summer 1965

GERMAN TOWNSHIP

Variable	Experimental (n-33)		Control (n-33)		"t"	Significance Level
	Mean	Sd	Mean	Sd		
PPVT IQ	94.7	15.9	89.6	14.6	1.35	NS
ITPA LQ	104.6	14.0	97.3	8.3	1.82	.08
Auditory-Vocal Automatic	6.1	3.2	4.7	2.2	2.07	.05
Visual Decoding	11.0	2.7	10.4	2.7	.90	NS
Motor Encoding	15.0	3.4	10.9	3.1	5.12	.001
Auditory-Vocal Association	12.2	3.9	11.6	3.8	.63	NS
Visual-Motor Sequencing	8.4	3.2	5.8	2.1	3.91	.001
Vocal Encoding	12.9	3.5	10.0	3.3	3.46	.001
Auditory-Vocal Sequencing	13.2	5.5	14.1	5.2	—.68	NS
Visual-Motor Association	14.4	3.1	13.6	3.8	.94	NS
Auditory Decoding	22.4	3.9	22.8	5.2	—.35	NS

HARRISBURG

Variable	Experimental (n-31)		Control (n-27)		"t"	Significance Level
	Mean	Sd	Mean	Sd		
PPVT IQ	69.2	18.1	71.1	18.8	—.39	NS
ITPA LQ	90.8	13.1	92.5	14.3	—.47	NS
Auditory-Vocal Automatic	5.8	3.3	5.4	3.1	.48	NS
Visual Decoding	9.6	3.6	8.3	3.4	1.42	NS
Motor Encoding	11.2	4.0	10.7	3.3	.52	NS
Auditory-Vocal Association	10.0	3.4	10.9	4.1	—.89	NS
Visual-Motor Sequencing	8.2	3.5	9.0	4.1	—.80	NS
Vocal Encoding	11.9	3.3	11.6	2.9	.40	NS
Auditory-Vocal Sequencing	17.2	4.6	17.7	6.5	—.33	NS
Visual-Motor Association	9.4	3.0	10.4	4.0	—1.06	NS
Auditory Decoding	11.5	6.4	13.9	6.4	—1.42	NS

POTTSTOWN

Variable	Experimental (n-33)		Control (n-33)		"t"	Significance Level
	Mean	Sd	Mean	Sd		
PPVT IQ	89.7	15.9	80.3	17.3	2.29	.03
ITPA LQ	97.4	15.6	90.1	12.8	2.06	.05
Auditory-Vocal Automatic	7.4	3.2	5.8	2.6	2.23	.04
Visual Decoding	10.9	3.0	8.6	3.7	2.77	.01
Motor Encoding	10.7	4.0	11.5	3.1	—.91	NS
Auditory-Vocal Association	12.5	4.0	11.2	3.1	1.48	NS
Visual-Motor Sequencing	8.7	2.8	7.8	4.0	1.06	NS
Vocal Encoding	10.9	4.7	11.3	4.6	—.35	NS
Auditory-Vocal Sequencing	13.3	6.2	12.7	4.1	.47	NS
Visual-Motor Association	10.8	4.1	9.8	3.5	1.07	NS
Auditory Decoding	14.3	4.8	13.8	3.7	.45	NS

APPENDIX D

Reliability and Validity Coefficients of ITPA and PPVT

Reliability Coefficients of the ITPA Subtests for Age 5-0

	Internal[1] Consistency (n-50)	Split-Half[2] (n-50)	Test-Retest[3] (n-69)
Auditory-Vocal Automatic	.77	.79	.72
Visual Decoding	.79	.77	.45
Motor Encoding	.64	.72	.49
Auditory-Vocal Association	.72	.82	.79
Visual-Motor Sequencing	.75	.62	.18
Vocal Encoding	.78	.73	.37
Auditory-Vocal Sequencing	.83	.85	.86
Visual-Motor Association	.76	.77	.34
Auditory Decoding	.84	.89	.50

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[1] McCarthy, J., and Kirk, S.: *The Construction, Standardization and Statistical Characteristics of the Illinois Test of Psycholinguistic Abilities,* University of Wisconsin, Madison, 1963, p. 29.

[2] *Ibid.,* p. 31.

[3] *Ibid.,* p. 31.

Validity Coefficients of the ITPA Total with Other Instruments[4]

Instrument	R*	N**	Age Level
Stanford-Binet IQ	.61	50	5-0
Stanford-Binet IQ	.39	85	6-0 to 7-0
Stanford Achievement—Par. Read.	.50	85	6-0 to 7-0
Stanford Achievement—Word Read.	.47	85	6-0 to 7-0
Stanford Achievement—Spelling	.45	85	6-0 to 7-0
Ravens Progressive Matrices	.48	85	6-0 to 7-0
Peabody Picture Vocabulary	.38	83	6-0 to 7-0

---

[4] McCarthy, J., and Olson, J.: *Validity Studies on the Illinois Test of Psycholinguistic Abilities,* Department of Exceptional Children, University of Wisconsin, Madison, 1964, p. 14.

* R—Correlation Coefficient

**N—Number of Subjects

Validity Coefficients of the PPVT with Other Instruments[5]

Instrument	R	N	Age Level
Stanford-Binet	.76	315	6-0 to 18-0
Henmon-Nelson	.61	150	13-0
California Test Mental Maturity	.58	150	13-0
California Achievement Test	.54	150	13-0

---

[5] Dunn, L.: *Manual—Peabody Picture Vocabulary Test,* American Guidance Services, Inc., Washington, D.C., 1959, p. 31.

Reliability of PPVT IQ[6]

Type	R	N	Age Level
Parrell Forms	.73	133	5-0

---

[6] *Ibid.,* p. 29.

APPENDIX E

Intercorrelation Matrix for the Entire Preschool and Primary Education Project (14 variables)*

(n-397)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
PPVT MA		.96	.95	.70	.65	.53	.51	.49	.67	.32	.41	.27	.39	.55
PPVT RS			.97	.71	.66	.52	.53	.48	.67	.34	.39	.27	.42	.57
PPVT IQ				.67	.69	.51	.49	.47	.64	.32	.47	.24	.38	.54
ITPA RS					.87	.62	.69	.68	.78	.54	.64	.57	.64	.69
ITPA LQ						.55	.61	.63	.70	.44	.55	.47	.54	.61
Auditory-Vocal Automatic							.35	.38	.58	.31	.30	.36	.29	.29
Visual Decoding								.50	.49	.36	.33	.28	.45	.42
Motor Encoding									.45	.21	.49	.24	.43	.41
Auditory-Vocal Association										.34	.51	.35	.45	.50
Visual-Motor Sequencing											.23	.33	.22	.22
Vocal Encoding												.28	.33	.37
Auditory-Vocal Sequencing													.15	.16
Visual-Motor Association														.46
Auditory Decoding														

* *Variable Identification*

Peabody Picture Vocabulary—Mental Age in Months	1
Peabody Picture Vocabulary—Raw Score	2
Peabody Picture Vocabulary—IQ	3
Illinois Test of Psycholinguistic Ability—Raw Score	4
Illinois Test of Psycholinguistic Ability—Language Quotient	5
ITPA—Auditory-Vocal Automatic	6
ITPA—Visual Decoding	7
ITPA—Motor Encoding	8
ITPA—Auditory-Vocal Association	9
ITPA—Visual-Motor Sequencing	10
ITPA—Vocal Encoding	11
ITPA—Auditory-Vocal Sequencing	12
ITPA—Visual-Motor Association	13
ITPA—Auditory Decoding	14

APPENDIX F

Number and Percentages of Children by Project Centers in Various Treatment Conditions, Spring 1965

*Condition by City**

Erie Condition	Number
1	28
5	33
7	11
	72

Aliquippa Condition	Number
1	34
2	3
3	36
	73

German Township Condition	Number
1	33
5	33
	66

Chester Condition	Number
1	18
2	18
3	11
4	20
7	4
	71

Harrisburg Condition	Number
1	17
2	14
3	10
4	17
5	3
6	3
7	4
	68

Pottstown Condition	Number
1	24
2	9
3	33
7	7
	73

Total by Conditions (in six summer projects)

Number		*Per Cent*
1	154	36.4
2	44	10.4
3	90	21.3
4	37	8.7
5	69	16.3
6	3	.7
7	26	6.1
	423	99.9%**

Retention Percentages

$$\frac{\text{Current Control}}{\text{Original Control}} = \frac{199}{240} = 82.9\%$$

$$\frac{\text{Current Experimental}}{\text{Original Experimental}} = \frac{198}{240} = 82.5\%$$

---

* See list of conditions on page 16.

** Slightly less than 100% due to rounding errors.

APPENDIX G

Mean Scores and Standard Deviations of Collapsed Experimental and Control Children in Six Project Centers, Spring 1965

	Experimental (n-198)		Control (n-199)	
	Condition 1 and 2 Mean	Standard Deviation	Condition 3,4,5,&6 Mean	Standard Deviation
CA—at time of test (months)	57.53	17.13	58.14	16.91
PPVT MA (months)	47.0	14.0	46.4	13.5
Raw Score	37.9	12.4	37.5	12.4
PPVT IQ	81.7	20.5	79.8	19.5
ITPA—Raw	98.9	25.9	96.2	25.9
ITPA LQ	94.4	16.9	91.7	14.5
Auditory-Vocal Automatic	6.4	3.4	6.0	3.3
Visual Decoding	9.8	3.6	9.2	3.7
Motor Encoding	11.6	4.1	10.8	3.7
Auditory-Vocal Association	10.9	4.2	10.8	3.9
Visual-Motor Sequencing	8.4	4.0	7.8	3.9
Vocal Encoding	10.9	3.9	9.9	4.0
Auditory-Vocal Sequencing	15.9	5.5	16.0	5.9
Visual-Motor Association	10.9	4.3	10.6	4.3
Auditory Decoding	14.3	6.4	15.2	6.7

APPENDIX H

Analysis of ITPA and PPVT Mean Scores of Four Social Work-Parent Education Subgroups in Chester, Harrisburg, and Chester and Harrisburg Combined, Summer 1965

Comparison of ITPA and PPVT Means of Four Social Work-Parent Education Subgroups in Chester

	Group I (n-18)	Group II (n-18)	Group III (n-11)	Group IV (n-18)	F Ratio*	Significance Level
PPVT IQ	69.9	60.1	64.1	67.3	.88	NS
ITPA LQ	83.0	75.8	77.5	79.7	.61	NS

* An F Ratio of 2.76 would be necessary to obtain a significance level of .05.

Analysis of Variance for Chester on the PPVT IQ (n-65)

Source	Degree of Freedom	Sum of Squares	Mean Square	F Ratio
Total	64	23340.3	——	——
Between	3	971.4	323.8	.88
Within	61	22418.9	367.5	——

df 3 and 61 α .05 = 2.76

Therefore difference is not significant.

Analysis of Variance for Chester on the ITPA LQ (n-65)

Source	Degree of Freedom	Sum of Squares	Mean Square	F Ratio
Total	64	17323.8	——	——
Between	3	507.8	169.3	.61
Within	61	16816.0	275.7	——

df 3 and 61 α .05 = 2.76

Therefore difference is not significant.

Comparison of ITPA and PPVT Means of Four Social Work-Parent Education Subgroups in Harrisburg

	Group I (n-17)	Group II (n-14)	Group III (n-10)	Group IV (n-17)	F Ratio*	Significance Level
PPVT IQ	70.5	67.6	75.7	68.5	.41	NS
ITPA LQ	89.1	93.0	95.3	90.9	.50	NS

* An F Ratio of 2.78 would be necessary to obtain a significance level of .05.

Analysis of Variance for Harrisburg on the PPVT IQ (n-58)

Source	Degree of Freedom	Sum of Squares	Mean Square	F Ratio
Total	57	20377.38	——	——
Between	3	451.38	150.46	.41
Within	54	19926.00	369.00	——

df 3 and 54 α .05 = 2.75

Therefore difference is not significant.

Analysis of Variance for Harrisburg on the ITPA LQ (n-58)

Source	Degree of Freedom	Sum of Squares	Mean Square	F Ratio
Total	57	10517.7	——	——
Between	3	282.9	94.3	.50
Within	54	10234.8	189.5	——

df 3 and 54 α .05 = 2.75
Therefore difference is not significant.

Comparison of ITPA and PPVT Means of Four Social Work-Parent Education Subgroups in Chester and Harrisburg

	Group I (n-35)	Group II (n-32)	Group III (n-21)	Group IV (n-35)	F Ratio*	Significance Level
PPVT IQ	70.1	63.3	69.6	67.9	.83	NS
ITPA LQ	85.9	83.3	85.9	85.1	.17	NS

* An F Ratio of 2.68 would be necessary to obtain a significance level of .05.

Analysis of Variance for Chester and Harrisburg Combined on the PPVT IQ (n-123)

Source	Degree of Freedom	Sum of Squares	Mean Square	F Ratio
Total	122	44459.4	——	——
Between	3	909.4	303.1	.83
Within	119	4355.0	365.9	——

df 3 and 119 α .05 = 2.68
Therefore difference is not significant.

Analysis of Variance for Chester and Harrisburg Combined on the ITPA LQ (n-123)

Source	Degree of Freedom	Sum of Squares	Mean Square	F Ratio
Total	122	32553.90	——	——
Between	3	141.66	47.22	.17
Within	119	32412.24	272.37	——

df 3 and 119 α .05 = 2.68
Therefore difference is not significant.

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1965-66

1965-1966 ANNUAL PROGRESS REPORT
PRESCHOOL AND PRIMARY EDUCATION PROJECT

Harrisburg 1967

1965-1966 ANNUAL PROGRESS REPORT

to the

FORD FOUNDATION

on the

PRESCHOOL AND PRIMARY EDUCATION PROJECT

A long range attack to reduce the
educational disadvantage of
children from poverty backgrounds

Conducted for the

COUNCIL FOR HUMAN SERVICES
COMMONWEALTH OF PENNSYLVANIA

By

Department of
Public Instruction

Department of
Public Welfare

Department of
Health

Harrisburg
1967

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I

INTRODUCTION

Purpose

The intent of this report, in reviewing the progress, problems, and findings of the project at the end of the third year, is to describe:

(1) the background of the project and the families and children served by the project;

(2) the programs and services developed and operated;

(3) the evaluation design established for these programs and services;

(4) the evaluation findings at the conclusion of the third year;

(5) the implications of these findings for the projects fourth year.

Problem

The Preschool and Primary Education Project is one phase of an over-all program designed to attack the school dropout problem. It was instituted as a long range program to reduce the educational disadvantage of those preschool children whose backgrounds are characterized by economic, social and cultural deficiencies. Such children generally arrive at first grade unprepared and poorly equipped to meet the intellectual and social standards set before them. It is the aim of this project to improve their educational performance not only at this early level but also throughout their school years.

The Governor's Council for Human Services, an executive agency created to coordinate and expedite state activities dealing in areas of human services and personal welfare, is responsible for the over-all guidance of the project. However, the major responsibility for administration is with the Department of Public Instruction, with additional assistance from the Departments of Public Welfare and Health and the local school districts. Financial support is furnished in part by these organizations and the remainder through a grant from the Ford Foundation.

Two different program designs operate in the project. In one, located at the Centennial School District in lower Bucks County, a Hub School has been operating a regular school nursery and kindergarten program for three years. Each group of 40 children that began in the nursery program continued on into the project's kindergarten program with the same teacher. The Hub School program does not include summer programs. The time sequence for each group of children at the Hub School is described in the following Table:

TABLE I

Educational Continuum: Hub School 1963-1968

Hub School	Nursery	Kindergarten	Grade 1	Grade 2	Grade
Wave I	1963-64	1964-65	1965-66	1966-67	1967-6
Wave II	1964-65	1965-66	1966-67	1967-68	
Wave III	1965-66	1966-67	1967-68		
Wave IV	1966-67	1967-68			
Wave V	1967-68				

The second design, organized in the six communities of Aliquippa, Chester, Erie, Albert Gallatin, Harrisburg, and Pottstown, follows a continuum of three summer experiences for each entering nursery age group. Beginning in the summer of 1965 with a preschool nursery, and followed in the summer of 1966 with a pre-kindergarten, the second wave of project children will conclude their experiences with post-kindergarten classes in the summer of 1967. During the regular school year, following the preschool nursery program of 1965, the project teachers instituted intensive home visit and parent education programs. After teaching these children in pre-kindergarten during the summer of 1966, the same teacher continued with them through kindergarten during the current school year. (See Table II). The major emphasis in the Preschool and Primary Education Project is working with children and with their parents. For the children, a preschool program has been developed to compensate for their educational deficiencies. The parents, meanwhile, are being involved in an educational program established to provoke their interest and strengthen their role in the education of their children. In addition, evaluation of the program are being made to determine the feasibility and the rationale for a follow-through program in the early primary grades.

This early and intensive intervention with the children and their parents has assumed a definite four dimensional approach:

(1) A diagnostically-based preschool program with an enriched curriculum has been formulated to compensate for the children's language deficiencies.

(2) A parent education program has been structured to bring about a more positive and effective parental influence on the children's educational development.

(3) The level of social services has been improved to provide better and more adequate relationships among and between the various local service agencies, the families, and the school. In addition, a more coordinated team approach has been effected between social workers and teachers.

(4) The professional staff has received more specific educational preparation for working with culturally disadvantaged children.

Project Features

Various methods have been employed in the different districts in the search for the best approach to the problem of improving the educational performance of the project children. Several levels and types of classes have been conducted for comparative study purposes. However, certain

TABLE II

Educational Continuum for Each of Six Districts: Summer Preschool Program 1964-1968

Summer 1964	Fall-Spring 1964-65	Summer 1965	Fall-Spring 1965-66	Summer 1966	Fall-Spring 1966-67	Summer 1967	Fall-Spring 1967-68	Summer 1968
Nursery Teacher A with a Teacher Aide	Parent Education Teacher A	Pre-kindergarten Teacher A with a Teacher Aide	Kindergarten Teacher A	Post-kindergarten Teacher C with a Teacher Aide	Grade 1		Grade 2	
		Nursery Teacher B with a Teacher Aide	Parent Education Teacher B	Pre-kindergarten Teacher B with a Teacher Aide	Kindergarten Teacher B	Post-kindergarten Teacher C with a Teacher Aide	Grade 1	
				Nursery Teacher A with a Teacher Aide	Parent Education Teacher A	Pre-kindergarten Teacher A with a Teacher Aide	Kindergarten Teacher A	Post-kindergarten Teacher C with a Teacher Aide
						Nursery Teacher B with a Teacher Aide	Parent Education Teacher B	Pre-kindergarten Teacher B with a Teacher Aide
								Nursery Teacher A with a Teacher Aide
Social Worker Project Coordinator	assigned to school throughout the five-year period →							

features are common to and specific for the project as a whole.

1. District and Families

The project districts were selected from among those school systems that expressed an interest in the program. They had to meet two criteria: (1) to be willing to make a long-term commitment to the project and (2) to be able to identify a minimum of 100 underprivileged families with preschool children. By underprivileged was meant that the principal wage earner was employed in either an unskilled or semi-skilled job and that one or both parents were themselves dropouts. It was necessary to specify 100 families in order to fill the requirement of 40 children for the project, 40 for controls, and a sufficient number remaining to draw from should some of those originally enrolled children leave the project. In this way, the project in each district was assured of obtaining enough children from three and one-half to four and one-half years who came from environmentally deprived areas. More specific information about the characteristics of the districts and the families has been included in the two previous project reports.[1,2]

2. Personnel

The project field staff is composed of 14 teachers, approximately the same number of teacher aides, eight social workers, and seven project coordinators. The remaining personnel include members of the various steering committees, the central staff, and consultants to the project.

Each district has a full time social worker. Although he is an employee of the Department of Public Welfare, his function in the project is to work with all families, whether or not they are receiving public assistance. His approach is diagnostic and ameliorative, and he

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[1] Progress Report 1963-64, Preschool and Primary Education Project, Dept. of Public Instruction, Harrisburg, Pa., 1964, pp. 6-8, 29-31.

[2] Progress Report 1964-65, Preschool and Primary Education Project, Dept. of Public Instruction, Harrisburg, Pa., 1965, p.4.

coordinates activities between the community service agencies and the families. The social workers and teachers coordinate their activities in working with individual families and in planning and implementing the parent education program.

The local project coordinator provides administrative direction for the project. The assignment may take from one-eighth to one-half of his time from his regular job, which is usually an administrative or supervisory position in the school district. The coordinator recruits, selects, and orients project personnel and handles various arrangements in regard to public relations, classroom equipment, and enrollment of project children. Eventually he will act as liaison in integrating the project into the ongoing operation of the school system.

3. Professional Workshops

In-Service programs in the form of workshops and institutes are held throughout the year for various project personnel. These programs provide an intensive orientation to the preschool project and cover all phases of it. In the fall and spring, an institute is planned for teachers and social workers. Periodically, conferences are held for social workers, project coordinators, and other staff members.

Summary of the First Year

At the start of the Preschool and Primary Education Project, the main areas of concern were the development of a compensatory educational program; training and preparation of professionals; coordination of community services; institution of a parent education program; the selection of districts, personnel, children and families, and equipment; plus the development of an evaluation design. The tenet on which the program evolved was that children from low socio-economic backgrounds have initial academic deficits, especially in the areas of perception, language, and cognition, at the time of their formal entry into the regular school system. The primary aim of the project was to reduce this deficit.

During the course of the year, various difficulties arose. There were the usual administrative problems and lack of communication within the project. Research conditions were far from ideal, and it was hard to find research personnel for the project. Some financial and staff limitations of community agencies made it difficult to utilize these facilities at times, while other necessary services were lacking in several communities.

However, despite the many obstacles, definite accomplishments were seen by the end of the year. From the collection and analysis of data on the project children, their families, and their communities, and from a re-evaluation of the original objectives, the staff was able to reformulate its objectives into a clearer, more workable form and to define areas of future exploration. A complete description of the progress, activities, and plans of the first year can be found in the project's first report.[3]

Summary of the Second Year

The emphases of the second year were, as in the first year, on the compensatory education program for children, the parent education program, the in-service training of professional staff and the utilization of community service agencies.

The major accomplishment of the second year was the development of an experimental kindergarten curriculum. This experimental diagnostic language program was characterized as highly structured, language oriented, based on diagnostic information provided by the Illinois Test of Psycholinguistic Abilities (ITPA) and remedial in approach. The plans were for the structured diagnostic program to be used for approximately one hour per day in the kindergarten classes; the remainder of the time to be utilized by enrichment type activities. This program necessitated the pretesting of each child with the ITPA and the preparation of an ITPA profile. A curriculum guide for use by the teachers in the preschool program was prepared.

A change was apparent in the testing program. This change was brought about by the hiring of trained psychometrists. These people were each assigned an equal number of children from every group in each of the project areas in an attempt to control for tester variability.

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[3] Progress Report 1963-64, op. cit.

Thus, at the end of the second year, a review of progress indicated where and how changes were to be made, but on a more definite basis than was evident at the conclusion of the first year. A comprehensive view of the project's second year has been published in the annual report.[4]

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[4] Progress Report 1964-65, op. cit.

II

IN-SERVICE TRAINING PROGRAMS

During 1965-1966, a variety of meetings, conferences, and training programs were held for the staff of the Preschool and Primary Education Project. The content, though similar to that of the previous years, was also revised to include suggestions expressed by the staff at the conclusion of last year's training programs.[5] Aside from the meetings for the staff within each project district and for individual levels of personnel, such as coordinators, social workers, and aides, training institutes were conducted for nursery teachers and social workers together, for ITPA teachers, and for new personnel prior to the 1966 summer program.

Teacher-Social Worker Institute (Fall 1965)

The project social workers and nursery teachers who had just completed their first summer nursery met for three days to prepare for the fall parent education program. On the first day, the two groups met separately to discuss the areas relevant to their own field.

The teachers were still relatively new to the project, although they had participated in a workshop prior to the summer program. Therefore, their conference was devoted to a review of the project itself, including the parent education program heretofore conducted, and to the characteristics of the project families, including discussions of family patterns and values, low income and alienation, and common language problems. The social workers reviewed the summer program, were introduced to the psychological testing program, and were oriented to the ITPA curriculum.

On the second and third days, the teachers and social workers participated in the staff training institute, which was devoted to the role of the staff in regard to family social services, parent group education, school-community relationships, and coordinating services of community agencies.

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[5] Progress Report 1964-1965, op.cit.,pp.24-27.

ITPA Teachers' Institute and Workshop (Fall 1965 and Spring 1966)

All ITPA teachers, both experimental and control, and project administrators attended both training programs, each held for two days. The group attending the fall meeting had already been exposed to the prekindergarten workshop of the previous summer, which included the development of the program for the experimental ITPA curriculum.

The ITPA program is exceedingly complex, both in preparation and administration. Thus the major portion of the first institute was given over to discussions of the ITPA program: individual reports on its use, how the program had progressed in the Hub School and in a demonstration school in Pottstown, and explanation of materials and techniques for the nine subtest areas.

By the time of the spring meeting, the teachers had had a chance to use the ITPA program and could discuss it in greater depth. Further study of the curriculum was undertaken, and demonstrations were given of the individual subtest activities as well as of combining activities. The meeting also covered plans for completing the 1965-1966 program, including testing used for evaluation purposes.

III

SUMMER NURSERY AND PARENT EDUCATION PROGRAM

The summer preschool program in 1965 was operative in the same six districts that had participated in the nursery program the previous summer: Aliquippa, Chester, Erie, Albert Gallatin, Harrisburg, and Pottstown. This second entering project group was identified and selected in a manner similar to that used for the first project children. Administratively, parallel patterns were followed in all districts: a six to seven-week school program averaging about 30 days, with one 2½ hour session in the morning and another in the afternoon.

Summer Nursery Program--(1965)

The summer nursery program involved an average of 36 children in each of the project centers. Each center employed one teacher and one aide. There were two 2½ hour sessions each day with the local projects setting their own time for opening and closing according to transportation arrangements and other administrative problems.

There was no prescribed, structured curriculum for the summer nursery program. At the beginning of the program, the teachers observed a variety of needs of these children. Their program began with a concern for the emotional and social development of each child. From this point the child was encouraged to explore various art media, play with puzzles, blocks and other games, play in the housekeeping area. He was introduced to the world of books, encouraged to talk and participate in discussions, creative dramatics and music activities. Outdoor play with the use of play equipment was a part of the program. All activities were planned to encourage the socialization of the child as a first step and then moved into the improvement of language skills--speaking and listening.

In the informal evaluation of the summer nursery program, the teachers noted that one of the strongest points was the growth of a favorable attitude toward school by parents and children. This was facilitated by the efforts of the social worker, the project coordinator as well as by the efforts of the teachers in their daily contacts with the children and parents. Another major gain was in the area of socialization. It was noted that not only was this a gain observed in the children, but the parents became more relaxed and outgoing. The teachers also noted that gains were observed in the child's ability to express himself verbally.

In their informal evaluations, the teachers expressed the need for more training and guidance for working with children at this level. They felt a need for more information on the curriculum and content for education of the three to four year old child--a list of educational goals or objectives and ideas for activities that would help to attain these goals. The teachers also felt a need for increased parental involvement.

In conclusion, it would seem that despite gains observed by the teachers, more specific direction was needed for the nursery program. There was also the need for more in-service education for teachers who are working with the children at this level. However, the improved attitude of the parents toward the school seemed to indicate that the program is succeeding in that the parents are beginning to realize the value and importance of education for their children at this early level.

Parent Education Program--(1965-1966)

During the regular school year, the Preschool and Primary Education Project employs a teacher one-half time to work with the nursery children and their parents in a program of parent education. Three methods were used during 1965-66 to involve parents in the education of their children; parent group meetings, home visits by the teacher and the social worker, and teacher demonstrations of activities that parents might follow-through with the children at home. Each project area varied its approach but usually stressed one more than others according to the administrative problems involved.

The goals set forth for the parent education program did not greatly differ with the type of approach used. Instead, they could be better categorized, by intended use, for: the parents alone; the parents and child; the parents and the school; or the parents, child, school and community.

In the informal evaluation of the parent education program, teachers and social workers alike expressed the fact that the principal weakness was the seeming indifference of many parents and the inability to draw them to school meetings. Those who came to school were very faithful and seemed to want to help. However, too many assumed the passive role and waited for the teacher and/or the social worker to visit them in the home. Parties and excursions which brought the parents to school were limited vehicles for learning about the needs of children.

At the conclusion of the nursery school parent education program the experimental and control groups were contrasted on the Peabody Picture Vocabulary Test (PPVT) and the Illinois Test of Psycholinguistic Abilities (ITPA).

The evaluation design was as follows:

(1) Eighty disadvantaged children were identified in each of the six school districts.

(2) The group of 80 was randomly divided into 40 experimentals and 40 controls.

(3) The experimental group was exposed to a seven week summer school nursery and a concurrent social work-parent education program.

(4) All available experimental and a 25 per cent random sample of control children were tested at the conclusion of the program (June 1966) with the PPVT and the ITPA.

The test results are shown in Table III. It is possible that the small number of controls as well as the method of test administration or the facilities used may have had some effect on the test scores.

TABLE III

Pooled Comparison of Mean Scores between Experimental and Control Groups in Si
Project Districts - Tested June, 1966, before Entrance into Kindergarten.

Test	Group 1 Experimental (N=178)	Control *		F+	Leve of Signif
		Group 2 (N=40)	Group 3 (N=7)		
PPVT Raw Score	36.49	39.86	35.78	<1.00	NS
PPVT IQ	78.18	82.57	77.70	<1.00	NS
ITPA Total	95.19	106.57	95.95	<1.00	NS
ITPA LQ	91.85	96.34	93.36	<1.00	NS
Auditory Decoding	14.69	15.71	14.35	<1.00	NS
Visual Decoding	8.02	9.14	7.58	<1.00	NS
Auditory-Vocal Association	9.81	10.86	10.13	<1.00	NS
Visual-Motor Association	10.73	11.86	10.65	<1.00	NS
Vocal Encoding	9.10	11.43	9.00	<1.00	NS
Motor Encoding	10.64	10.57	10.78	<1.00	NS
Auditory-Vocal Automatic	6.44	7.57	6.80	<1.00	NS
Auditory-Vocal Sequencing	17.36	19.29	18.68	<1.00	NS
Visual-Motor Sequencing	8.02	12.14	7.88	5.96‡	.01

*Group 2 are control children with no nursery experience. Group 3 are contro
children who have attended a Head Start Program.
+F values required: For .01 level 4.71; for .05 level 3.04.
‡Group #3 is significantly different from Group #2 at the .01 level.

IV

PREKINDERGARTEN AND KINDERGARTEN PROGRAMS

In the summer of 1965, the first project prekindergarten classes began, followed by the first project kindergarten during 1965-1966. (Note: Hub School Program). As explained in last year's report,[6] an experimental kindergarten curriculum was formulated in order to treat specific deficits in the perceptual, cognitive, and linguistic areas. The Illinois Test of Psycholinguistic Abilities (ITPA) was utilized as a diagnostic instrument for this preschool language program.

The ITPA kindergarten sessions were structured in two stages. In the first, the developmental stage, the ITPA was used as the diagnostic instrument to determine the level of the child's functioning in each of the nine ITPA areas. After approximately six to eight weeks, the teacher verified or revised the ITPA diagnoses, based on her own observations, and changed the curriculum accordingly. This marked the beginning of the remedial phase, wherein the classroom routine was adapted to meet each child's psycholinguistic needs. ITPA activities were conducted for at least one hour a day.

To assess the value of the ITPA summer prekindergarten and kindergarten experiences, two types of control groups were set up. The first were children with no preschool experience who attended the ITPA kindergarten only. The second were children who had attended the project the preceding year but now were enrolled in non-ITPA prekindergarten and kindergarten classes. All six districts that had taken part in the summer 1964 nursery program continued into the kindergarten study. Table IV outlines the structure of the ITPA and non-ITPA programs.

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[6] Progress Report 1964-1965, op.cit.,pp.35-37.

TABLE IV

Structure of Experimental Prekindergarten and Kindergarten Programs

School District	Number of Sessions ITPA Program: Prekindergarten Summer 1965	Number of Sessions ITPA Program: Kindergarten 1965-1966	Number of Sessions Non-ITPA Program: Prekindergarten Summer 1965	Number of Sessions Non-ITPA Program: Kindergarten 1965-1966
Aliquippa			2	2
Chester	2	2		
Erie	2	1*		
A.Gallatin	2	2		
Harrisburg			2	2
Pottstown+				
Group 1	2	2		
Group 2	-	2		
Group 3	-	1		
Group 4	-	2		
TOTALS	8	12	4	4

*The second ITPA session did not continue past the developmental stage.

+Groups 2-4 had no preschool experience before entering kindergarten.

Summer ITPA Prekindergarten (1965)

The ITPA prekindergarten sessions (morning and afternoon) were conducted during a six-week, 24-day period in the Chester, Erie, and Albert Gallatin school districts, and for 30 days in the Pottstown school district. Enrollment averaged 19 children each session with about 87 per cent of the children usually attending.

At the end of the summer session, the teachers were asked to list the main accomplishments of their program. Half of the responses were in the realm of improved socialization: the children adjusted to the classroom setting, learned to work with a group and without constant supervision by the teacher, and began to communicate more freely. About one-third of the response dealt with improvements of an intellectual-perceptual nature: learning words, shapes, sizes, colors; beginning to read books and look at pictures along with the teacher; listening to and enjoying records; widening experiences through field trips in the community. Emotional and motor development were mentioned as showing the least improvement.

It is not possible to draw any definite conclusion from the summer ITPA program alone. What will be of interest is to find out in what way this experience, which has, indeed, not brought about any dramatic changes in the children's performance, will affect the kindergarten performance of these same children. Then, if a noticeable improvement does exist, it will be important to discover how long the improvement can be maintained.

Summer Non-ITPA Prekindergarten (1965)

The non-ITPA prekindergarten classes were held for 28 days in Aliquippa and 24 days in Harrisburg. The average enrollment in each morning and afternoon session was 20, with about 86 per cent of the children usually in attendance.

The program for non-ITPA prekindergarten classes differed only in the fact that there was no specific block of time allotted for a remedial language program.

The major accomplishments of the program, as listed by the teachers, were not unlike those of the ITPA prekindergarten in specific content, but they did show differences in the percentage of responses in each area. The greatest improvement was seen in the intellectual-perceptual sphere first, then in motor development. Socialization, on the other hand, which was rated highest by the ITPA teachers, was third here. However, emotional development was also lowest among the noted accomplishments, as in the ITPA classes.

There does not, at this point, appear to be a great difference between the ITPA and non-ITPA classes in structure and activities. ITPA-type activities are conducted in both, though perhaps with a more definite focus in the ITPA classes.

ITPA Kindergarten (1965-1966)

During the regular school year, ITPA kindergartens operated in four of the project areas. Approximately 20 children were enrolled in each session and there were two sessions each day. Comparable schedules were followed in each project area. There was usually one hour of specific ITPA activity, with children divided into workable groups and taking part in group activity. The remainder of the session involved child development types of activity. The teachers found that more than four groups was not an efficient organization since three of these must necessarily work independently. There were times when specific ITPA activities were carried on with the group as a whole.

The types of ITPA activities employed corresponded to the needs of the children. As abilities improved, the activities increased in complexity. The arrangement of the room was based on size, shape, equipment and numbers of children. The rooms contained the usual kindergarten equipment. Table V shows the ITPA areas and some of the activities employed in each area. One of the important strengths noted by the teachers was that there was an opportunity to institute a diagnostic approach for instruction, based on a knowledge of the children's ITPA abilities at the start of the school year and a means of judging their progress. Thus the teacher could formulate a teaching plan with a definite direction and purpose. Along with this, the teachers gained a better understanding of the nine ITPA areas and learned how to adapt familiar activities into purposeful contexts. Through the method of grouping, the teacher gave each group more concentrated and individualized instruction at each child's specific level of functioning, yet could also work with the entire group if common weaknesses existed.

The disadvantage most often listed by the teachers was the greater amount of outside preparation needed to carry out the ITPA program. The complexity of the program itself required the assistance of a teacher aide at each session.

Suggestions by teachers for improving the program and overcoming some of its weaknesses are presented in Table VI.

TABLE V

General Activities Used in the Remedial ITPA Program

Auditory Decoding: ability to comprehend the spoken word.
Teacher asks questions about something read in the newspaper "Surprise."

Visual Decoding: ability to comprehend pictures and written words.
Finding pictures in Surprise. Noting something wrong in pictures.

Auditory-Vocal Association: ability to relate spoken words in a meaningful way.
Sentence completion.

Visual-Motor Association: ability to relate visual symbols meaningfully.
Categorize pictures by groups or in order. Match numbers with groups of objects.

Vocal Encoding: ability to express ideas in spoken words.
Teacher shows an object and says, "Tell me about this." Teacher brings an object to class every day and it is discussed.

Motor Encoding: ability to express ideas through gestures.
Teacher shows object and says, "Show me how you use this." Charades. Acting out stories.

Auditory-Vocal Automatic: ability to predict future linguistic events from past experience.
Sentence completion. Use of grammatical usage cards.

Auditory-Vocal Sequencing: ability to correctly repeat a sequence of symbols previously heard.
Repeating numbers, words. Learning counting rhymes, songs, nursery rhymes. One child plays a certain number of notes on an instrument and another child repeats it. Matching words by first sounds. Shopping in supermarket unit.

Visual-Motor Sequencing: ability to correctly reproduce a sequence of symbols previously seen.
Reproduce series of letters seen or pictures using cut-out shapes. Stringing bead patterns. Matching words by first letters.

TABLE VI

Suggestions for Improving the ITPA Program

Structure

(1) Combine the 9 ITPA areas into 3 or 4 more workable and practical groups.
(2) Break up the 1 hour program into ¼ or ½ hour periods and alternate with other activities.
(3) Group activities into levels of difficulties; i.e., from gross to finer levels of discrimination.
(4) Provide a post-testing instrument to enable teacher to see if and where progress has been made so that she can focus on areas of little gain.

Children and Staff

(1) Limit session to 20 children.
(2) Have at least one aide per session.
(3) More supervision from a roving coordinator who can bring in ideas from other schools and classes.

Non-ITPA Kindergarten (1965-1966)

Two daily kindergarten Non-ITPA sessions were conducted during the regular school year in two project areas. Approximately 20 children were enrolled in each two and one-half hour session.

The curriculum was child development oriented. At least one-half of each session was devoted to planned language activities.

Although the children in both schools had some definite language problems, the number considered by the teachers to be of a serious nature were relatively small. Common language difficulties included incorrect grammar, limited speaking vocabulary, use of incomplete sentences, improper pronunciation, poor enunciation and sound discrimination, and inadequate sequential development. Related to these language problems were such factors as the lack of an experiential background for building an understanding concepts and ideas.

The teachers used a variety of techniques in an effort to develop the children's linguistic ability. From books and school newspapers, the teachers read stories and had the children discuss, retell in sequence, and dramatize them. Pictures were used to promote discussions. Calendar activity was used to familiarize the children with the names of the days and the months and the numbers of the days and the year. Other materials and equipment, such as workbooks, puppets, flannel boards, and blackboards, also served to help in concept development, for telling or making up stories, and for organizing ideas.

A specific remedial speech program was put into effect by teachers in both projects through phonovisual methods, developing beginning sound concepts, choral speaking, and stress on speaking clearly with repetition of difficult words. Daily informal conversations were part of the program. "Show and tell" activities, finger plays, and field trips provided a background for discussions.

At the end of the school year, seven of the eight children with serious language problems in one project had not improved; however, only one out of the five in the other project showed no gains. It was suggested that perhaps a more structured program would give the children experiences that would favor continued improvement. Also mentioned by the teachers was the need for emphasizing the importance of good speech in the home during parent meetings and home visits.

Evaluation of the Kindergarten Programs

The objective evaluation of the project kindergarten children and their controls was made through the administration of the Metropolitan Readiness Test upon their entrance to first grade. The evaluation had a twofold purpose: (1) to compare various combinations of preschool experiences to see which, if any, combination produced more significant results; and (2) to compare the experimental ITPA kindergarten to a conventional non-ITPA kindergarten.

Three major groupings were established:

(1) Experimentals with summer nursery, parent education program, summer ITPA prekindergarten, and full year ITPA kindergarten (Chester, Erie, Albert Gallatin, and Pottstown Group 1).

(2) Experimentals with summer nursery, parent education program, summer non-ITPA prekindergarten, and full year non-ITPA kindergarten (Aliquippa and Harrisburg).

(3) Controls with full year ITPA kindergarten only Pottstown Groups 2, 3, and 4).

However, many of the control population were exposed to a variety of experiences during the year. Therefore, for a more accurate analysis of data, the children in the six districts must be placed within seven treatment categories:

(1) Experimentals with ITPA kindergarten (n=97).

(2) Experimentals with regular kindergarten (n=70).

(3) Controls with Head Start and no kindergarten (n=14).

(4) Controls with Head Start and regular kindergarten (n=43).

(5) Controls with ITPA kindergarten (n=29).

(6) Controls with regular kindergarten (n=59).

(7) Controls with no kindergarten (n=6).

Table VII presents the comparison of Metropolitan Readiness Test performance between experimentals and controls (when both experimental groups are considered as one and when the five control groups are pooled into one group).

TABLE VII

Pooled Comparison of Performance on the Criterion Variables of the MRT between Experimental and Control Groups in 6 Project Districts--Tested Fall 1966 at Entrance to First Grade

	Experimental (n=167)		Control (n=151)			
Variable	Mean Score	Standard Deviation	Mean Score	Standard Deviation	F*	Level of Significance
Word Meaning	7.0539	2.8438	6.3179	2.1272	6.7159	.01
Listening	9.1257	2.6118	9.0596	2.6210	.0506	NS
Matching	6.9521	3.5344	6.5960	3.1920	.8821	NS
Alphabet	6.9581	4.0855	6.6026	4.0068	.6113	NS
Numbers	10.7485	4.5624	10.6490	4.8965	.0351	NS
Copying	5.6168	3.6051	5.5430	3.6855	.0325	NS
TOTAL	46.4551	16.4631	44.7682	15.9309	.8585	NS

*F values required: for .01 level 6.63; for .05 level 3.84.

Table VIII shows total mean scores for the Metropolitan Readiness Test:

TABLE VIII

Comparison of Total MRT Performance for Each of Seven Treatment Groups

Treatment Group*	Mean Score	N
2	(47.9000)	20
6	(47.7797)	59
4	(47.3721)	43
5	(46.6897)	29
1	(45.4124)	97
3	(29.6429)	14
7	(22.5000)	6

*See pages 27-28 for description of groups.

In view of the small number of cases in groups 3 and 7, the statistically significant differences between these two groups and each of the other five groups probably should be disregarded. No other differences between means were statistically significant.

V

THE CENTENNIAL (HUB) SCHOOL NURSERY PROGRAM
WAVE III

Three waves of project children entered the Hub School in the fall of 1965: Wave III into nursery, Wave II into kindergarten, and Wave I into first grade (See Table I, page 2). The kindergarten classes (two sessions per class) were divided into one project ITPA kindergarten with five nonproject ITPA kindergarten control classes, and one project non-ITPA kindergarten with two nonproject control classes. Both the nursery and kindergarten classes were organized to include two sessions daily, two and one-half hours each, with an aide assigned to each session. There was no summer program.

The daily schedule for the two nursery sessions (approximately 18 children per session) was flexible and varied according to the needs of the children. General nursery activities were arranged for group and individual work, with stress on the areas of deficiencies noted by the teacher. These areas were similar to those of the summer project children: a need for social adjustment with peers and adults; for emotional development in relation to self-identification, and a sense of responsibility. By the end of the school year, the teacher stated that major gains could be seen in an improved attitude toward school, improved attendance; the development of a warm and cooperative relationship with the parents; and in the child's adjustment to school, and his participation in the various activities.

To reinforce the nursery experience, a parent education program was also conducted. This program necessarily differed from the program previously explained because the teachers and children were involved in a full-time nursery program. Group meetings and nursery demonstrations each involved 10 per cent of the planned time for the program. The remaining 80 per cent involved the teacher's contact with parents when they took their children to and from school, during attendance at school for special functions, such as a birthday party or cooking class, and when they accompanied the children on field trips. Home visits were made only by the social worker.

Seven parent meetings were held. The parents were introduced to the staff and told about the program. Demonstrations, with parent participation, were given of the various activities the children engaged in, and educational movies were shown. Attendance ranged from about 27 to 83 per cent. Although the meetings were considered successful, the same weakness was present here as in the summer program: a certain group of parents always attended, while those who showed the greatest need did not come to meetings nor to conferences and trips sponsored by the school.

The nursery demonstration program fared far better in that each parent was invited on a specific date to observe the class. Through careful scheduling of these invitations, a 100 per cent response was obtained.

At the conclusion of the nursery year, Wave III children and their controls were compared on Peabody Picture Vocabulary Test (PPVT) and Illinois Test of Psycholinguistic Abilities (ITPA). The evaluation design was the same as that used in 1965.

(1) Eighty operationally defined disadvantaged children were identified in the Centennial School District.

(2) The group of 80 was randomly divided into 40 experimentals and 40 controls.

(3) The experimental group was exposed to a regular school year nursery (1965-1966) and a concurrent social work-parent education program.

(4) All available experimental and available control children (from a 25 per cent sample) were tested at the conclusion of the program (June 1966) with the PPVT and the ITPA.

The test results are shown in Table IX. It is possible that the small number of controls as well as the method of test administration or the facilities used may have had some effect on the test scores.

TABLE IX

Comparison of Mean Scores between Wave III Experimental and Control Groups - Tested June, 1966, before Entrance to Kindergarten - Hub School.

Test	Experimental (N=23)	Control (N=4)	F*	Level of Significance
PPVT Raw Score	47.78	44.00	< 1.00	NS
PPVT IQ	97.52	91.25	< 1.00	NS
ITPA Total	106.13	105.50	< 1.00	NS
ITPA LQ	102.04	93.08	< 1.00	NS
Auditory Decoding	15.96	17.75	< 1.00	NS
Visual Decoding	9.30	9.25	< 1.00	NS
Auditory-Vocal Association	12.87	10.25	1.40721	NS
Visual-Motor Association	11.61	14.50	1.21609	NS
Vocal Encoding	10.22	11.00	< 1.00	NS
Motor Encoding	12.09	11.75	< 1.00	NS
Auditory-Vocal Automatic	7.95	7.25	< 1.00	NS
Auditory-Vocal Sequencing	15.30	13.75	< 1.00	NS
Visual-Motor Sequencing	10.04	10.00	< 1.00	NS

*F value required: for .05 level 4.24.

VI

EVALUATION OF CURRICULUM

ITPA Kindergarten (1965-1966)

Enrollment in the project and nonproject ITPA kindergarten sessions ranged from 15 to 31 children. Daily activities were structured around a one hour ITPA language program, during which the children worked in small groups, either with the teacher or independently. The remaining time was spent in free play, games, music, unit study, and story time. To accommodate the needs of the ITPA program, three or four disability stations were set up, each having instructional materials for a specific area. As with the ITPA classes conducted in the summer kindergarten program, these classes went through the developmental or diagnostic phase first, followed by the remedial stage. Groupings were established either by common deficiencies or by general level of ability (good, average, or poor). The teachers also stated that the use of the nine separate ITPA areas not only provided a means of focusing on specific activities but also allowed them to follow through on a continuous evaluation of the language development of each child.

On the other hand, some teachers stated that the program had a tendency to become rigidly structured and that it did not lend itself to the social development of the child. Also, in some ways it was too advanced for the immature child. Other disadvantages expressed were similar to those noted by the summer program teachers: that it required too much preparation time, that an aide was absolutely necessary, and that more in-service training was needed.

Non-ITPA Kindergarten (1965-1966)

Three non-ITPA kindergarten classes of two sessions each were conducted in the Centennial school district. From 20 to 34 children were enrolled in each session, with attendance averaging 25. Daily activities included reading and story time; discussions; unit study; art; writing; music, singing, and rhythms; and free play.

Out of the total of 169 children in all sessions, the teachers reported that 18 (10.6 per cent) had serious language problems at the start of the school term.

The teachers devoted about one hour per session to a language program that included discussions of current events, science, social studies and health; reading and story telling; "show and tell," rhyming words, and beginning sounds exercises; use of worksheets for learning numbers and the alphabet as well as to develop visual discrimination; and creative dramatics.

At the end of the school year, the teachers reported that the children had made some definite gains in language development. Speech patterns were improved, as seen by an increased use of complete sentences, a larger vocabulary, and better enunciation. The children developed confidence in speaking before the group. They also improved in listening skills, readily understanding and following directions. However, of the 18 children who had started with serious language problems, 10 still had not overcome them.

The teachers were aware of some deficiencies in their own language program. They suggested that more time be devoted to the development of language skills and that more materials and activities be used to improve visual motor abilities and other pre-reading skills. The need for an aide at every session was mentioned (only two sessions had a full time aide) in order to allow the teacher to work individually with various children who had serious language problems.

Evaluation Design For Hub School---Wave II

The kindergarten programs were set up to answer two questions. (1) How well do children do, when exposed to a full year nursery and a full year ITPA kindergarten, compared to controls with no preschool experiences? (2) How well do children do, when exposed to a full year ITPA kindergarten, compared to controls exposed to a full year regular kindergarten?

To answer the first question, the following evaluation design was used.

(1) Eighty operationally defined disadvantaged were identified in the Centennial School District.

(2) The group of 80 was randomly divided into 40 experimentals and 40 controls.

(3) The experimental group was exposed to both a regular school year nursery (1964-1965) and a concurrent social work-parent education program plus a regular school year ITPA kindergarten (1965-1966).

(4) All available experimental and available control children were tested at the conclusion of the program (Fall 1966) with the MRT. The reader should note that only four control children were available at this time due to the extreme mobility of the population.

It can be seen in Table X that no statistically significant differences occurred between the two groups.

TABLE X

Comparison of Performance on the Criterion Variables of the MRT between Wave II Experimental and Control Groups--Tested Fall 1966 at Entrance to First Grade

	Experimental (n=30)		Control (n=4)			
Variable	Mean Score	Standard Deviation	Mean Score	Standard Deviation	F	Level Signif cance
Word Meaning	6.7000	2.4516	7.0000	2.1602	.0540	NS
Listening	9.9000	1.9001	10.5000	1.0000	.3775	NS
Matching	7.4000	2.8720	8.5000	2.6458	.5252	NS
Alphabet	6.8000	4.1306	9.2500	4.3493	1.2291	NS
Numbers	12.3667	3.4590	11.0000	3.5590	.5480	NS
Copying	6.3667	3.5669	7.7500	2.6300	.5546	NS
TOTAL	49.2000	12.1383	54.0000	10.2956	.5668	NS

Evaluation Design For Curriculum

The following is the evaluation design proposed to assess the value of an ITPA kindergarten in relation to a conventional kindergarten.

(1) In the Centennial School District, 360 disadvantaged children were identified, and in the Pottstown School District, 90 were identified. (Pottstown Groups 2, 3, and 4--See Table XI).

(2) The group of 360 were divided into 240 experimentals and 120 controls. The group of 90 were all used as experimentals.

(3) The experimental group was exposed to a regular school year ITPA kindergarten (1965-1966), and the control group to a conventional kindergarten.

(4) All available experimental and available control children were tested at the conclusion of the program (Fall 1966) with the MRT.

The results in Table XI show no significant differences on five of the six subtests between the two groups. However, a statistically significant difference at the .05 level in favor of the experimentals appeared on the alphabet test.

TABLE XI

Comparison of Performance on the Criterion Variables of the MRT between Experimentals in Nonproject ITPA Kindergartens and Controls in Regular Kindergartens--Tested Fall 1966 at Entrance to First Grade

	Experimental (n=314)		Control (n=93)			
Variable	Mean Score	Standard Deviation	Mean Score	Standard Deviation	F*	Leve Signi canc
Word Meaning	8.7102	2.6755	8.3548	2.9290	1.2110	NS
Listening	10.0382	2.3439	9.8280	2.4120	.5697	NS
Matching	9.0318	3.3467	8.6022	3.4076	1.1730	NS
Alphabet	9.9904	4.2887	8.9677	4.5312	3.9750	.05
Numbers	13.5350	5.3659	12.8065	4.5903	1.4086	NS
Copying	8.4586	3.5873	8.0000	3.8363	1.1355	NS
TOTAL	59.5637	14.9968	56.5591	16.0884	2.7843	NS

*F values required: for .01 level 6.70; for .05 level 3.86.

VII

EVALUATION OF CENTENNIAL (HUB) SCHOOL PROGRAM--WAVE I

Wave I children were articulated with the regular first grade at the Hub School in 1965. During the school year, they received no special treatment. As mentioned earlier, their Metropolitan Readiness Test performance was very similar to that of their controls at entrance to first grade.

The evaluation design for testing was continued from previous years.

(1) Eighty operationally defined disadvantaged children were identified in the Centennial School District.

(2) The group of 80 was randomly divided into 40 experimentals and 40 controls.

(3) The experimental group was exposed to a regular school year nursery and concurrent social work-parent education program, a regular school year ITPA kindergarten, and first grade.

(4) All available experimental and available control children were tested at the conclusion of the program (Fall 1966) with the Metropolitan Readiness Test.

The Metropolitan Achievement Test (MAT) was given to Wave I children and their controls upon their entrance into second grade. The results are tabulated in Table XII.

TABLE XII

Comparison of Performance on the Criterion Variables of the MAT Between Wave I Experimental and Control Groups--Tested Fall 1966 at Entrance to Second Grade

Variable	Experimental (n=25)	Control (n=32)	F*	Level Signi ance
	Mean Score	Mean Score		
Word Knowledge	23.28	24.22	<1.00	NS
Word Discrimination	22.40	23.69	<1.00	NS
Reading	19.24	19.00	<1.00	NS
Arithmetic	40.80	44.97	1.46022	NS
TOTAL	105.80	111.88	<1.00	NS

*F Value required: for .05 level 4.02.

VIII

SUMMARY

Although the statistical evaluations have shown few significant differences, it would be wrong to suggest that no progress in the preschool field has been made. This project has had an effect on children, parents, teachers, social workers and the administrators of the involved school districts. While these effects cannot be measured objectively, they do exist.

A concerted effort is being made to coordinate the efforts and activities within the Department of Public Instruction. Assuming that this coordination can be achieved, it could be reasonably expected that the project would be able to make significant recommendations affecting such matters as:

(1) those sections of the school code where revision is needed to assure quality preschool programs for all children;

(2) assure quality preschool programs for all children;

(3) teacher training and certification for early childhood education;

(4) the structure and design of early childhood education programs (kindergarten through primary grades);

(5) future research projects in the early childhood area.

APPENDIXES

APPENDIX A

Comparison of Mean Scores between Experimental and Control Groups in Each of Six Project Districts - Tested June, 1966, before Entrance to Kindergarten.

ALIQUIPPA

Test	Experimental (N=29)	Control (N=10)	F*	Level of Significance
PPVT Raw Score	36.83	27.60	4.51331	.05
PPVT IQ	77.55	63.80	2.78578	NS
ITPA Total	101.21	88.70	2.36010	NS
ITPA LQ	94.87	89.90	< 1.00	NS
Auditory Decoding	15.34	11.30	7.11490	.01
Visual Decoding	8.90	7.30	1.40008	NS
Auditory-Vocal Association	10.69	8.80	1.97334	NS
Visual-Motor Association	11.21	9.60	1.66307	NS
Vocal Encoding	9.31	8.40	< 1.00	NS
otor Encoding	10.97	10.70	< 1.00	NS
uditory-Vocal Automatic	6.31	5.90	< 1.00	NS
uditory-Vocal Sequencing	20.07	19.60	< 1.00	NS
isual-Motor Sequencing	8.41	7.30	< 1.00	NS

F values required: for .01 level 7.37; for .05 level 4.105.

APPENDIX A

Comparison of Mean Scores between Experimental and Control Groups in Each of Six Project Districts - Tested June, 1966, before Entrance to Kindergarten.

CHESTER

Test	Experimental (N=28)	Control (N=3)	F*	Level of Significanc
PPVT Raw Score	32.93	43.67	2.67404	NS
PPVT IQ	72.68	94.00	3.92383	NS
ITPA Total	83.07	97.00	1.38895	NS
ITPA LQ	84.95	95.39	3.53804	NS
Auditory Decoding	13.07	12.67	<1.00	NS
Visual Decoding	5.96	6.67	<1.00	NS
Auditory-Vocal Association	7.75	10.67	2.17085	NS
Visual-Motor Association	10.53	12.33	<1.00	NS
Vocal Encoding	7.89	10.00	1.47401	NS
Motor Encoding	10.04	12.00	1.57203	NS
Auditory-Vocal Automatic	4.79	9.33	8.15107	.01
Auditory-Vocal Sequencing	16.89	17.67	<1.00	NS
Visual-Motor Sequencing	6.14	5.67	<1.00	NS

*F values required: for .01 level 7.60; for .05 level 4.18.

APPENDIX A

Comparison of Mean Scores between Experimental and Control Groups in Each of Six Project Districts - Tested June, 1966, before Entrance to Kindergarten.

ERIE

Test	Experimental (N=27)	Control* (N=6)	F+	Level of Significance
PPVT Raw Score	36.15	42.00	1.05549	NS
PPVT IQ	76.48	88.40	1.36260	NS
ITPA Total	98.44	110.50	1.11907	NS
ITPA LQ	92.98	99.53	<1.00	NS
Auditory Decoding	15.22	15.17	<1.00	NS
Visual Decoding	8.70	8.67	<1.00	NS
Auditory-Vocal Association	10.30	13.00	2.50792	NS
Visual-Motor Association	10.67	12.17	<1.00	NS
Vocal Encoding	9.04	9.67	<1.00	NS
Motor Encoding	11.19	11.50	<1.00	NS
Auditory-Vocal Automatic	7.07	7.50	<1.00	NS
Auditory-Vocal Sequencing	18.07	23.33	2.86496	NS
Visual-Motor Sequencing	8.41	9.50	<1.00	NS

*Two of the control children attended a Head Start Program.
+F values required: for .01 level 7.53; for .05 level 4.16.

APPENDIX A

Comparison of Mean Scores between Experimental and Control Groups in Each of Six Project Districts - Tested June, 1966, before Entrance to Kindergarten.

ALBERT GALLATIN

Test	Experimental (N=30)	Control* (N=9)	F+	Level of Significanc
PPVT Raw Score	44.43	46.78	<1.00	NS
PPVT IQ	92.10	95.56	<1.00	NS
ITPA Total	98.80	102.56	<1.00	NS
ITPA LQ	92.95	95.44	<1.00	NS
Auditory Decoding	14.57	17.56	1.76633	NS
Visual Decoding	8.80	8.89	<1.00	NS
Auditory-Vocal Association	10.87	12.33	<1.00	NS
Visual-Motor Association	11.07	11.22	<1.00	NS
Vocal Encoding	10.50	10.00	<1.00	NS
Motor Encoding	11.47	10.33	<1.00	NS
Auditory-Vocal Automatic	7.93	7.67	<1.00	NS
Auditory-Vocal Sequencing	16.70	15.89	<1.00	NS
Visual-Motor Sequencing	8.20	8.67	<1.00	NS

*Four of the control children attended a Head Start Program.

+F values required: for .01 level 7.37; for .05 level 4.105.

APPENDIX A

Comparison of Mean Scores between Experimental and Control Groups in Each of Six Project Districts - Tested June, 1966, before Entrance to Kindergarten.

HARRISBURG

Test	Experimental (N=35)	Control* (N=9)	F+	Level of Significance
PPVT Raw Score	29.77	26.33	<1.00	NS
PPVT IQ	68.03	58.34	2.36732	NS
ITPA Total	92.31	93.33	<1.00	NS
ITPA LQ	92.38	91.94	<1.00	NS
Auditory Decoding	14.03	14.89	<1.00	NS
Visual Decoding	8.10	7.33	<1.00	NS
Auditory-Vocal Association	9.40	8.11	1.16326	NS
Visual-Motor Association	10.50	10.11	<1.00	NS
Vocal Encoding	8.40	7.89	<1.00	NS
Motor Encoding	9.69	11.00	1.51231	NS
Auditory-Vocal Automatic	6.63	6.44	<1.00	NS
Auditory-Vocal Sequencing	14.97	16.89	<1.00	NS
Visual-Motor Sequencing	7.63	10.33	4.88695	.05

*One of the control children attended a Head Start Program.
+F values required: for .01 level 7.27; for .05 level 4.07.

APPENDIX A

Comparison of Mean Scores between Experimental and Control Groups in Each of Six Project Districts - Tested June, 1966, before Entrance to Kindergarten.

POTTSTOWN

Test	Experimental (N=29)	Control (N=10)	F*	Level of Significan
PPVT Raw Score	39.83	39.30	<1.00	NS
PPVT IQ	83.55	85.10	<1.00	NS
ITPA Total	97.55	98.00	<1.00	NS
ITPA LQ	92.67	94.03	<1.00	NS
Auditory Decoding	16.05	15.00	<1.00	NS
Visual Decoding	7.59	7.60	<1.00	NS
Auditory-Vocal Association	9.86	9.90	<1.00	NS
Visual-Motor Association	10.41	11.10	<1.00	NS
Vocal Encoding	9.48	10.70	<1.00	NS
Motor Encoding	10.69	10.10	<1.00	NS
Auditory-Vocal Automatic	5.83	6.60	<1.00	NS
Auditory-Vocal Sequencing	18.00	19.80	<1.00	NS
Visual-Motor Sequencing	9.38	8.20	1.67482	NS

*F values required: for .01 level 7.37; for .05 level 4.105.

APPENDIX B

mparison of Performance on the Criterion Variables of the MRT between Experimental and ntrol Groups in Each of Six Project Districts - Tested Fall, 1966, at Entrance to rst Grade.

ALIQUIPPA

Variable	Experimental (N=36) Mean Score	Experimental (N=36) Standard Deviation	Control (N=34) Mean Score	Control (N=34) Standard Deviation	F*	Level of Significance
rd Meaning	7.5000	3.0938	7.1176	1.9658	.3758	NS
stening	9.5833	2.5341	9.5882	2.1759	.0001	NS
tching	9.0833	3.4589	8.2941	2.9494	1.0493	NS
phabet	9.0000	3.6489	7.8529	4.2862	1.4590	NS
mbers	13.4167	3.6204	13.0588	4.9110	.1214	NS
pying	7.7778	3.0994	6.7941	3.2732	1.6679	NS
TAL	56.3611	14.1020	52.7057	14.1137	1.1928	NS

value required: for .05 level 3.98.

CHESTER

Variable	Experimental (N=29) Mean Score	Experimental (N=29) Standard Deviation	Control (N=17) Mean Score	Control (N=17) Standard Deviation	F*	Level of Significance
rd Meaning	6.8621	2.8751	5.4118	2.7170	2.8375	NS
stening	8.9310	2.4043	7.0588	3.4905	4.6326	.05
tching	5.7241	3.5142	4.0000	3.2787	2.7073	NS
phabet	6.0345	3.9504	4.5294	3.7603	1.6107	NS
mbers	8.7586	4.2816	6.7647	4.4795	2.2470	NS
pying	4.2069	3.2225	3.4706	3.8098	.4888	NS
TAL	40.5172	15.9186	31.2353	18.6230	3.2131	NS

values required: for .01 level 7.21; for .05 level 4.05.

ERIE

Variable	Experimental (N=18) Mean Score	Experimental (N=18) Standard Deviation	Control (N=24) Mean Score	Control (N=24) Standard Deviation	F*	Level of Significance
rd Meaning	6.6667	2.1144	6.5417	2.1865	.0346	NS
stening	8.7222	2.8244	9.6250	2.5163	1.1923	NS
tching	5.3889	2.5927	6.5417	3.1065	1.6261	NS
phabet	4.3333	2.0292	6.7917	3.6710	6.5439	.05
mbers	8.6111	3.7907	12.2917	4.8766	7.0439	.05
pying	3.2778	3.0641	6.9167	3.6346	11.7553	.01
TAL	37.0000	9.6100	48.7085	14.5820	9.3623	.01

values required: for .01 level 7.27; for .05 level 4.07.

APPENDIX B

Comparison of Performance on the Criterion Variables of the MRT between Experimental and Control Groups in Each of Six Project Districts - Tested Fall, 1966, at Entrance to First Grade.

ALBERT GALLATIN

Variable	Experimental (N=40) Mean Score	Experimental (N=40) Standard Deviation	Control (N=19) Mean Score	Control (N=19) Standard Deviation	F*	Level of Significan
Word Meaning	7.0250	3.1090	6.2105	1.9883	1.0869	NS
Listening	9.1000	2.7717	9.2632	2.8837	.0435	NS
Matching	6.2500	3.6919	6.5789	3.4045	.1074	NS
Alphabet	6.3000	4.5189	5.8947	4.2018	.1082	NS
Numbers	12.2000	5.0849	10.0000	4.9554	2.4502	NS
Copying	5.5000	3.6864	4.2105	3.0474	1.7512	NS
TOTAL	46.3750	18.8131	42.1578	16.8367	.6907	NS

*F value required: for .05 level 4.00.

HARRISBURG

Variable	Experimental (N=21) Mean Score	Experimental (N=21) Standard Deviation	Control (N=28) Mean Score	Control (N=28) Standard Deviation	F*	Level of Significan
Word Meaning	5.9048	2.3217	5.2857	1.5362	1.2601	NS
Listening	8.4286	2.9928	8.2500	2.2381	.0572	NS
Matching	6.5238	2.3795	5.5714	2.3949	1.9081	NS
Alphabet	6.5714	4.2611	7.1071	4.5732	.1745	NS
Numbers	8.2857	3.6075	8.6786	4.1460	.1202	NS
Copying	4.9048	3.3452	4.8929	3.9566	.0001	NS
TOTAL	40.6191	14.4550	39.4286	14.1328	.0835	NS

*F value required: for .05 level 4.03.

POTTSTOWN (GROUP 1)

Variable	Experimental (N=23) Mean Score	Experimental (N=23) Standard Deviation	Control (N=29) Mean Score	Control (N=29) Standard Deviation	F*	Level of Significan
Word Meaning	8.0000	2.6629	6.7931	2.0245	3.4502	NS
Listening	9.6522	2.1660	9.7931	2.1444	.0549	NS
Matching	8.0000	3.3710	7.1724	2.8793	.9111	NS
Alphabet	8.4783	3.4755	6.1724	2.8917	6.8217	.05
Numbers	10.4783	3.7157	11.0690	3.7122	.3245	NS
Copying	6.6957	3.4037	5.6552	3.4875	1.1661	NS
TOTAL	51.3045	13.4213	46.6552	11.6959	1.7526	NS

*F values required: for .01 level 7.16; for .05 level 4.03.

Intercorrelation Matrix for All Kindergarten Project Children (14 Variables)*

(N=251)

	1	2	3	4	5	6	7	8	9	10	11	12	13
Auditory Decoding	.314												
Visual Decoding	.262	.361											
Auditory-Vocal Association	.318	.546	.544										
Visual-Motor Association	.228	.386	.376	.420									
Vocal Encoding	.230	.488	.377	.613	.256								
Motor Encoding	.290	.355	.352	.531	.274	.367							
Auditory-Vocal Automatic	.289	.488	.452	.641	.371	.490	.408						
Auditory-Vocal Sequencing	.126	.321	.253	.434	.300	.348	.259	.414					
Visual-Motor Sequencing	.320	.395	.441	.518	.384	.413	.371	.320	.267				
ITPA Raw Score	.355	.714	.633	.844	.580	.705	.620	.728	.654	.626			
PPVT Raw Score	.348	.488	.541	.697	.393	.476	.505	.546	.264	.448	.668		
PPVT IQ	.168	.440	.500	.661	.373	.441	.473	.514	.247	.389	.621	.970	
ITPA LQ	-.005	.576	.536	.761	.508	.612	.460	.633	.585	.528	.852	.626	.649

*Variable Identification

1. Chronological Age, Months
2. ITPA - Auditory Decoding
3. ITPA - Visual Decoding
4. ITPA - Auditory-Vocal Association
5. ITPA - Visual-Motor Association
6. ITPA - Vocal Encoding
7. ITPA - Motor Encoding
8. ITPA - Auditory-Vocal Automatic
9. ITPA - Auditory-Vocal Sequencing
10. ITPA - Visual-Motor Sequencing
11. Illinois Test of Psycholinguistic Abilities - Raw Score
12. Peabody Picture Vocabulary Test - Raw Score
13. Peabody Picture Vocabulary Test - Intelligence Quotient
14. Illinois Test of Psycholinguistic Abilities - Language Quotient

APPENDIX D

Intercorrelation Matrix for All Grade 1 Project Children (8 Variables)*

(N=773)

	1	2	3	4	5	6	7
Word Meaning	.092						
Listening	.116	.395					
Matching	.116	.427	.384				
Alphabet	.023	.459	.392	.561			
Numbers	.152	.404	.418	.528	.552		
Copying	.098	.438	.386	.578	.519	.524	
Total Score	.121	.665	.617	.778	.812	.754	.788

*Variable Identification

1. Chronological Age, Months
2. MRT - Word Meaning
3. MRT - Listening
4. MRT - Matching
5. MRT - Alphabet
6. MRT - Numbers
7. MRT - Copying
8. Metropolitan Readiness Test - Total Score

66-67

PRESCHOOL AND PRIMARY EDUCATION PROJECT

1966-67 ANNUAL PROGRESS REPORT

to

THE FORD FOUNDATION

Authors

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Michael D. Berzonsky

September 1967

Conducted for the

COUNCIL FOR HUMAN SERVICES
COMMONWEALTH OF PENNSYLVANIA
Harrisburg

By

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Public Instruction

Department of
Public Welfare

Department of
Health

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I

INTRODUCTION

The purpose of the fourth annual progress report of the Preschool and Primary Education Project is to describe the program and results for the period of June 1966 to June 1967.

The Preschool and Primary Education Project, originally designed as one phase of an overall attack on the school dropout problem, began as a nursery school program in the fall of 1963. It is generally accepted that children from a lower socio-economic background are poorly equipped to cope with the social and educational experiences they encounter in a formal school setting. This project, therefore, was an effort to demonstrate that a compensatory education program at the preschool and primary level would assist in the alleviation of this disadvantage which is prevalent throughout the entire school life of such children.

The Pennsylvania Department of Public Instruction supports and administers this project through its Bureau of Research in a joint effort with the Ford Foundation, the Departments of Public Welfare and Health, and the School Districts of Albert Gallatin, Aliquippa, Centennial, Chester, Erie, Harrisburg, and Pottstown. The Department of Public Welfare supplies the social work component for the project.

The first three years of the project have been described in separate annual reports, published previously[1,2,3], and will be summarized only very briefly in this report. A nursery school, serving as a pilot project, was opened in Centennial School during the first year (1963). The major efforts of that year were employed in developing the design for the total program and in locating participant districts for the following years.

During the second year the nursery program was implemented in six additional districts and an experimental kindergarten curriculum was developed. This experimental curriculum was a highly structured remedial language program based on diagnostic information provided by the Illinois Test of Psycholinguistic Abilities (ITPA). This program was implemented experimentally at the kindergarten level during the third year and utilized in all kindergarten and nursery classes in the fourth year.

II

PROCEDURES

In an effort to achieve the main project objective of remediating the cultural and educational handicaps of lower socio-economic families and preschool children, five somewhat separate but integrated programs were employed. These five emphases were:

1. A diagnostic-remedial language program formulated in order to compensate for the specific language deficiencies of disadvantaged children.
2. A summer school program developed to provide educational experience for disadvantaged children.
3. A parent-education program designed to create a more effective and positive parental influence on the education of their children.
4. An improved level of social services aimed at the social problems related to the preschooler's academic performance.
5. An in-service training program structured toward assisting teachers and other personnel concerned with aiding disadvantaged children and their families.

Implementation of the Experimental Language Program

The experimental diagnostic language program (ITPA), developed during the second year of the project[2] and implemented experimentally in kindergarten classes during the third year[3], was fully implemented during the fourth year in the kindergarten and the nursery classes.

The kindergarten children had been tested by trained psychometrists in June, 1966, prior to the prekindergarten summer program. Thus, the kindergarten teachers were provided with an ITPA profile for each pupil before, or shortly after, the beginning of the summer program. This profile permitted the teachers to concentrate their efforts on the organization and implementation of the remedial phase of the ITPA instruction.

The ITPA test was not administered to the nursery children because of the difficulties and uncertainties involved in giving this test to prekindergarten disadvantaged children. Therefore, the teachers were required to make their own diagnoses during the summer program and subsequently group children with similar disabilities for the following parent-education winter program.

Evaluation entailed the experiences (progress and problems) of the teachers in implementing the program as set forth in the experimental curriculum guide[6] and explained in the in-service training sessions. The method of collecting this evaluative data was two-fold: (1) classroom visitation by the central staff, and (2) teacher reports filed periodically with the program director.

Summer School Programs

Nursery The seven-week summer nursery program was initiated in 1964 with 40 randomly selected, experimental, disadvantaged children from three-and-a-half to four-and-a-half years old, in each of six project districts. The remaining district, Centennial (the pilot or "Hub" school), maintained a full-time nursery program instead of the summer program. In each succeeding year another nursery group has been selected at each of the projects to permit a continuous study of the nursery program.

The ITPA curriculum was used at the nursery level for the first time during the 1966 summer program. On the basis of training received during summer workshops and with the aid of the experimental language program guide the teachers were to diagnose each child's area of language deficiency and provide appropriate remedial instruction. Approximately one hour each day was allowed for the highly structured ITPA curriculum. The remainder of each day included other typical "enrichment" activities, viz., art, music, stories, and outdoor and indoor recreational media with much free play, in addition to ancillary services.

Prekindergarten Kindergarten age children who had completed the nursery program in the six districts were enrolled in a prekindergarten summer school program. These children were also to have about one hour per day of ITPA remedial instruction in addition to a traditional kindergarten program. The teachers were provided with a profile of each pupil's specific language difficulties as diagnosed by the ITPA. Pupils were then grouped according to their language disabilities for the hour of remedial instruction.

Postkindergarten This was the first year for the project postkindergarten program. Children in the six districts who had been with the project for two years were enrolled in this program for their third summer. The program for these children was an introduction to the formal instruction in reading and arithmetic which is normally encountered in the first grade.

Since the summer nursery school program and the parent-education program (which will be defined next) were the main ingredients of the nursery school program, they are considered as a single unit with respect to statistical analysis of pupil achievement. As was the practice in former years, this evaluation was made on the basis of an experimental-control comparison on those groups completing nursery school during previous years. This comparison, however, has become unrealistic for the 1966-67 nursery group since additional school programs have evolved for disadvantaged children (i.e., Head Start). Such programs have enrolled disadvantaged children who had been identified as controls, thus exposing them to either a summer or academic-year nursery school. In the case of the academic-year program, some of the children who had been identified as controls actually received more school experience than the experimental summer nursery children. In order to eliminate the effect this schooling would have on the test data, the comparisons for the 1966-67 nursery group are based on pre- post- Peabody Picture Vocabulary Test (PPVT) gains of the experimental group only. The pretest was given in June, 1966 before the children had been exposed to any school experience. The post-test was given in May 1967 following the summer school and parent-education programs. One nursery class (Pottstown) was excluded from the analysis since a social worker could not be hired to implement that parent-education program. The evaluative instruments and types of comparisons made in 1966-67 are summarized in the following table according to the year in which the pupils were enrolled in the nursery program.

TABLE I

Evaluative Design for 1966-1967

Year in Nursery Program	Comparison	Instrument
1963-64	Experimental-Control	Metropolitan Achievement Test Primary II Form A
1964-65	Experimental-Control	Metropolitan Achievement Test Primary I Form A
1965-66	Experimental-Control	Metropolitan Readiness Test Form A
1966-67	Pre-test Post-test	Peabody Picture Vocabulary Test Form A

Parent-Education Program

Another major component of this project was the inclusion of parents in the educational program. Since research indicates that parental attitudes are related to academic achievement and that home environment[5] appears to give "middle class" children the edge over their less fortunate peers, a specially structured curriculum was developed for the parents. The central staff decided to limit the scope of the parent-education program to the child's language performance to be consistent with the major thrust of the overall project. Offering this type of program will concentrate parents' efforts in the area of instruction that their children were receiving in school and, hopefully, bridge the gap that exists between home environment and school. More success in school performance might be realized if this dichotomy between home and school language models could be remedied.

The likelihood of a successful parent-education program seemed increased when certain existing factors were taken into consideration. Foremost among these factors was the opportunity to capitalize upon the desire of parents to help their children. In addition to the educational know-how of the teachers, social workers skilled in helping children make the transition from the home to the classroom were involved. The curriculum was such that the teachers could demonstrate each concept by teaching the children and then by instructing the parents in follow-up activities. The social worker could also assist parents in the homework aspect of the program.

The main effort of the program was concentrated on the parents of the nursery school children. Albert Gallatin, Aliquippa, Erie, and Harrisburg operated the program presently described. Chester had the services of a social worker for only part of the year, thus necessitating a modification of its program. Pottstown had no nursery program at all. Centennial operated a full-time nursery and confined its parent involvement to evening meetings of supplementary activities. Since each teacher in the parent-education program was employed for five afternoons a week, four days were set aside for child-parent demonstrations, and the fifth day was reserved for planning and home visitations to nonattending parents. The children were grouped so that approximately eight children and eight parents were assigned to each session. With the exception of summer school and the Centennial school, the nursery school for project children then consisted of one class a week during the regular school year. The criteria for grouping was the responsibility of the individual teachers and social workers in each district. Ideally, students were to be grouped according to language deficiencies as indicated by the ITPA diagnosis chart; but often geographic location, transportation, personal preference, or other problems had to be considered.

The curriculum, as previously mentioned, was closely articulated with the ITPA. Parents were taught the following through teaching demonstrations: (1) the significance of the activity, (2) how to conduct the activity, (3) the materials or substitutes to be used, and (4) similar activities that could be carried on at home. Materials were made available to parents when necessary. Supplementary activities, such as field trips, discussions, and speakers were planned at the discretion of teachers and social workers. An example of the activities of one school is included in Appendix C.

Because of the social workers' relationship with the families involved, they were charged with the duty of inviting and encouraging parent attendance. By involving the social workers in this area, it was hoped that they might discover and cope with the underlying reasons and motivational problems preventing parent attendance. When parent attendance at the regular meetings was impossible, the social workers scheduled individual home meetings for parents and teachers.

A second important role of the social workers was to provide the teacher with feedback. Since the social workers visited the home and developed a communicable relationship with the mother, it was easier for them to discover whether the suggested activities were being carried on in the home, how much time was spent on the activities, whether the mothers understood the overall program and the specific tasks, and how parents felt toward the program.

Social Services

One of the unique characteristics of the Social Services program was the presence of a social worker in each project district. Because of their specialized training, the social workers were able to provide additional help for the social problems of project families. These problems, although "nonschool," affect the ability of the child and family to function in an environment conducive to learning. The social worker was familiar with the school health and counseling services as well as the health and welfare programs of the community and the county. By providing this information and making appropriate referrals, the social worker could provide services to the project families.

The social workers, with the aid of the coordinators, were also charged with the responsibility of arranging and coordinating such ancillary services as dental, visual, nutritional, general health, and psychological care which centered specifically on the project child.

In-Service Training

Several workshops and institutes were held for the staff of the project centers. These meetings, in general, were directed toward broadening and strengthening the curriculum and the parent-education programs. By now it was evident that the "ITPA curriculum" which had been developed in previous years of the study[2] required a great deal of interpretation and explanation.

ITPA Workshops (June 1966) Since all project centers were to be using ITPA materials during the fourth year of the project in both kindergarten and nursery, all of the project teachers and teacher aides were brought together for a one-week workshop prior to the opening of summer school. While some of the centers had used ITPA the previous year in kindergarten classes, to others it was new. The nursery classes were being exposed to the ITPA program for the first time; therefore, the program was new to all nursery teachers.

This workshop provided explanations of the theory of ITPA and teaching demonstrations of the various ITPA components. The workshop was conducted by Sister Clarinda and Sister Claude Marie from the Kennedy School in Palos Park, Illinois, and Mrs. Samuel Kirk from the University of Illinois.

The social workers were included in the final sessions of the workshop. These sessions dealt with the teacher--social worker teamwork approach to the education of disadvantaged children.

Nursery Teacher--Social Worker Workshop (September 1966) Following the summer school program and before the beginning of the parent-education program the project nursery teachers and social workers were brought together for a workshop. An experimental edition of a parent education guide was introduced and the importance of the home environment in establishing the educational attitudes and ambitions of the child was emphasized. The social workers were introduced to criteria for interviewing which would help them assess the educational environment of the home.

Another important aspect of this workshop was to try to achieve the understanding of both the teacher and social worker which was necessary for a teamwork approach to the education of the disadvantaged child. The role of both the teacher and social worker was discussed in this context.

Social Worker Workshop (December 1966) After the social workers had had approximately ten to twelve weeks of experience with the parent-education program they were again brought together for a one-day seminar. At this meeting they were afforded an opportunity to exchange experiences with one another and to further refine the objectives and role of the social worker in the parent-education program.

Preschool and Primary Education Project Workshop (April 1967)

Approaching the conclusion of the fourth year of the project, all project teachers, social workers, and coordinators were brought together for a two-day institute. Procedures for the annual testing program were reviewed; a presentation was made by the "Hub" school on the role of their social worker; a discussion was held reflecting the progress and problems of the past year; and finally, since a change in the program for the succeeding year was imminent, the future development of the project was reviewed.

Social Worker Workshop (June 1967) In order to benefit mutually from their experiences over the past year, the social workers from each of the project districts were brought together for a planning session. The topics discussed at these sessions were: (1) the role of a school social worker, (2) the objectives of a project social worker, (3) each social worker's role as it evolved over the past year, and (4) how better to facilitate the team approach to education of the disadvantaged child.

Ideally, the most valid evaluation of an in-service training program would be the extent to which the behavior of the teacher or social worker is directed toward the desired objectives. Obviously, it is very difficult to attempt to quantify such changes for statistical comparison. However, descriptive observations were recorded and will be reported in a later discussion.

III

EVALUATION

Curriculum Implementation

From classroom visitations it became quite evident that the teachers had numerous interpretations of the ITPA curriculum. This assumption was supported by the teachers' reactions as reflected in personal conversations and written reports. Their experiences with the ITPA curriculum were quite diverse. Most of the teachers seemed to have feelings of uncertainty or a lack of self-confidence when they began teaching the new program. Attempts to follow the curriculum guide as one would a cookbook resulted in further confusion and frustration. It seems likely that something as new and difficult as the ITPA curriculum required more supervision from the central staff in order to alleviate the teachers' uncertainties and unify the instructional approach from district to district.

Another problem the teachers encountered was maintaining all of the pupil stations with a single teacher aide. All pupils seemed to be moving from one group to the next, thereby completing the entire cycle within a single instruction period. This practice would make questionable the policy of labeling the instruction "remedial" in the sense that the pupils eventually engaged in the same activities, just in different order. The pupils apparently started at the appropriate remedial station, but the plan for a continuous one-hour period of remediation was unrealistic.

Affirmatively, some of the teachers felt that it was beneficial to have a basic language component as the goal for the various nursery and kindergarten activities. They explained that these activities, although the same as had been used previously, were restructured to have a more positive focus on language development. Some teachers also felt that this language emphasis increased their sensitivity and understanding of language and learning difficulties, thus making them better teachers.

Summer Nursery School--Parent Education Program

Analysis of the pre- post- Peabody Picture Vocabulary Test (PPVT) mean gain scores for the five districts completing the summer nursery school and parent education program in 1966-67 yielded the following results:

1. The IQ means for the pooled data for the five districts demonstrated significant gains beyond the .01 level.
2. The IQ means for one of the five districts (Aliquippa) demonstrated significant gains at the .001 level.
3. The means for the remaining four districts (Albert Gallatin, Chester, Erie, and Harrisburg) demonstrated no significant gain in measured IQ scores, between pretest and post-test.

The following table summarizes the results of the PPVT pre- post- evaluation. The t-test for paired samples was used to test for significance.

TABLE II

Comparisons of Pre- and Post- PPVT Scores
for the 1966-67 Nursery Children

		Pretest		Post-test		Corre-	
	N	Mean Score	Standard Deviation	Mean Score	Standard Deviation	lated t	Level of Significance
Aliquippa	33	71.30	16.69	85.94	20.44	4.90	.001
Chester	19	75.16	8.80	73.74	15.05	0.37	NS
Erie	22	64.59	19.23	68.50	19.68	1.26	NS
Albert Gallatin	20	76.65	15.32	82.10	29.86	1.17	NS
Harrisburg	24	65.13	13.52	67.00	23.05	0.38	NS
Pooled Summer Program	118	70.32	15.85	76.22	23.02	3.28	.01

t values required: 3.627 (.001 level) for df = 32
2.617 (.01 level) for df = 117

The group which completed the nursery year in 1965-66 was tested with the Metropolitan Readiness Test (MRT) in May 1967 (the end of their kindergarten year), and compared with their respective control group. The results are as follows:

1. Analysis of the pooled data for the six districts yielded no significant differences. (See Appendix A)

2. In one of the six districts (Aliquippa) the experimental group scored significantly higher than the control group on the Word Meaning subtest at the .05 level. (See Table III)

3. The Harrisburg experimental group scored significantly higher than their control at the .05 level on the Alphabet subtest. (See Table IV)

4. The remainder of the comparisons made for each district yielded no significant differences on any of the subtests or for total. (See Appendix A)

TABLE III

Comparison of Experimental and Control Kindergarten Group Performance on the MRT May 1967

ALIQUIPPA

	Experimental (N=48)		Control (N=20)			
Variable	Mean Score	Standard Deviation	Mean Score	Standard Deviation	F-Ratio	Level of Significance
Word Meaning	6.4167	2.0817	5.1000	2.5526	4.9328	.05
Listening	8.6667	2.1071	8.4500	2.3503	0.1395	NS
Matching	6.7917	2.9097	6.7500	3.3541	0.0026	NS
Alphabet	6.1875	3.9012	6.5500	4.3100	0.1146	NS
Numbers	10.3958	3.9719	8.9500	3.8726	1.8976	NS
Copying	5.5208	2.9390	4.6500	3.1334	1.1925	NS
TOTAL	43.9792	11.6555	40.4500	13.6284	1.1706	NS

F value required: 3.99 (.05 level) df = 1,66

TABLE IV

Comparison of Experimental and Control Kindergarten Group Performance on the MRT May 1967

HARRISBURG

	Experimental (N=35)		Control (N=20)			
Variable	Mean Score	Standard Deviation	Mean Score	Standard Deviation	F-Ratio	Level of Significance
Word Meaning	6.4857	1.9459	5.5000	1.9331	3.2813	NS
Listening	8.3429	2.1412	8.4000	2.0622	.0093	NS
Matching	6.5143	2.4055	6.2000	2.7261	.1972	NS
Alphabet	7.5714	3.8979	5.0500	2.4165	6.8340	.05
Numbers	10.1429	3.0692	8.5500	2.7999	3.6473	NS
Copying	5.6286	3.0591	5.9500	3.8862	.1152	NS
TOTAL	44.9714	12.0794	39.6500	11.3660	2.5759	NS

F values required: 4.03 (.05 level) df = 1,53
7.14 (.01 level)

The group which completed the year of nursery training in 1964-65 and subsequently completed first grade during 1966-67 was compared to its control group on the Metropolitan Achievement Test (MAT), Primary I Battery, with the following results:

1. In the comparisons made for the pooled data from the six districts there were no significant differences. (See Appendix A)

2. In one district (Erie) there were significant differences at the .01 level in three of the subtests (Word Knowledge, Word Discrimination, and Arithmetic Concepts and Skills); and as shown in Table V, these differences favored the control group.

3. In all other comparisons made for each district there were no significant differences. (See Appendix A)

TABLE V

Comparison of Experimental and Control
First Grade Group Performance on MAT PI Battery May 1967

ERIE

Variable	Experimental (N=12) Mean Score	Experimental (N=12) Standard Deviation	Control (N=18) Mean Score	Control (N=18) Standard Deviation	F-Ratio	Level of Significance
Word Knowledge	14.67	9.75	24.11	6.72	9.9106	.01
Word Discrimination	13.58	9.42	22.83	7.23	9.2469	.01
Reading	16.67	10.42	19.28	6.91	.6851	NS
Arithmetic Concepts & Skills	36.00	15.03	49.39	7.60	10.4260	.01

F value required: 7.64 (.01 level) df = 1,28

"Hub" School Nursery Program

As mentioned previously, the "Hub" school nursery program differed from the other programs in that it was an academic year rather than a summer school program. Therefore, the parent education aspects of the "Hub" nursery program were much more limited in scope, since all children attended class everyday rather than in small parent-child groups.

Analysis of the pre- post- PPVT test scores for the 1966-67 nursery group revealed a mean gain of 16.18 IQ points which is significant at the .001 level. The t-test for paired samples was used to test for significance. The following table illustrates these results:

TABLE VI

Comparison of Pre and Post PPVT Scores
for the Centennial 1966-67 Nursery Children

	Pretest		Post-Test		Corre-lated	
N	Mean Score	Standard Deviation	Mean Score	Standard Deviation	t	Level of Significance
29	77.10	13.76	93.28	17.79	4.70	.001

t value required: 3.674 (.001 level) for df = 28

The three groups of children completing the nursery training previous to the 1966-67 school year were compared to their control groups on the MRT, MAT PI Battery and the MAT PII Battery, respectively. (See Table I, p. 7)

Analysis of student performance on the MRT post-test revealed that the experimental group scored significantly higher than the control group on three of the subtests (Word Meaning, Matching, and Alphabet) and on the total score. The differences on the three subtests were significant at the .05 level, while the total score difference was significant at the .01 level. Table VII which follows summarizes these results.

TABLE VII

Comparison of Experimental and Control
Kindergarten Group Performance on the MRT May 1967

CENTENNIAL

	Experimental (N=32)		Control (N=18)			
Variable	Mean Score	Standard Deviation	Mean Score	Standard Deviation	F-Ratio	Level of Significance
Word Meaning	7.8125	1.8039	6.1111	2.7842	6.8801	.05
Listening	10.1875	1.9417	9.2222	1.4775	3.3459	NS
Matching	7.4375	2.6873	5.6667	2.7440	4.9279	.05
Alphabet	7.3750	3.4054	5.2778	2.6965	5.0343	.05
Numbers	11.6875	3.7108	9.9444	4.3585	2.2406	NS
Copying	7.6875	4.0595	5.3333	4.0293	3.8946	NS
TOTAL	52.8125	12.3613	41.5556	12.4297	9.5161	.01

F values required: 4.04 (.05 level) df = 1,48
7.19 (.01 level)

Analysis of variance of the MAT Batteries yielded no significant differences on any of the subtests. Tables illustrating these analyses may be found in Appendix B.

Parent Education

The evaluation of the Parent Education program centered on two questions:

1. Do children exposed to a seven-week introductory nursery program and a parent education program perform significantly better on measures of academic readiness at the completion of the program than comparable children not exposed to any program?
2. What were the main accomplishments as well as weaknesses of the program, as teachers and social workers perceived them, with respect to both children and parents?

The first question is evaluated in conjunction with the nursery school program on page 16; the second question will be evaluated here.

Although no empirical data was collected on attitudinal and behavioral changes, the following opinions and observations of social workers and teachers were collected:

1. Community acceptance of the project has increased with each year of operation.
2. Parents have been participating in and taking advantage of more educational opportunities, such as:
   a. Being selected as officers of local PTA and community action programs.
   b. Acting as teacher aides.
   c. Attending school to complete their own degrees or to improve their skills by post-high school work.
   d. Visiting museums and other cultural agencies.
   e. Improved verbal expression.
   f. Increased paternal involvement with the project.
   g. Improved attitudes toward schools, family, and child-rearing to the extent that they are more willing to work toward solutions to these problems.
   h. Improved school attendance of older siblings.
   i. Increased referrals to other agencies regarding family problems.
   j. Increased stability in the community resulting from community involvement.
   k. Purchasing toys and books for children.
   l. Increased awareness of the physical needs of their children (breakfast, clothing, health, warmth).

However, the social workers also felt the program was beset by such external realities as pregnancy, work, and frequency of meetings, which inhibited the success of the program, at least attendance-wise. In addition the social workers felt that the program offerings did not always fit the needs of the parents.

One of the main drawbacks of the program was the inability of the social workers and teachers always to function together as an educational team. This became apparent through meetings with social workers who expressed uncertainty concerning their job responsibility and reports which were submitted to Harrisburg by teachers and social workers. Reportedly, social workers too often became attendance wardens and administrative assistants spending most of their time arranging meetings. Additionally, no planning period was regularly scheduled in any project district for teachers and social workers to collaborate on the activities for the coming week or to discuss the progress and problems of the students.

One important outcome of this year's program was the realization of the necessity for more definitive job descriptions for both teacher and social worker, and the active participation of the local school administrators in the formulation of these descriptions. Also, both teachers and social workers acquired a better understanding of the goals of the program, the type of instruction necessary, and the teamwork approach to educating the disadvantaged child.

Social Services

The accomplishments of the social service aspect of the program have been enumerated previously in the evaluation of the parent education program (see pages 21-22). In addition to these aspects of the social service program, there is also evidence of direct beneficial services to the children such as milk, health examinations, and immunizations provided at no cost to the project family. These services varied at each district according to the community agencies available and the ability of the project personnel to secure their assistance.

In-Service Training Program

Teachers As mentioned previously, the most valid evaluation of the in-service training programs is the extent to which it influences the attitudes and behavior of the participants. It was indicated, in the evaluative discussion of the ITPA curriculum, that the teachers were not in agreement as to how they were to function with the ITPA curriculum. This lack of consensus may have been due to the absence of a concerted follow-up effort of observation and consultation on the part of the central staff and consultants, rather than to inadequacy of the workshop itself. At the conclusion of the workshops the teachers appeared to be as familiar with ITPA as could be expected considering the task at hand.

Social Workers The in-service meetings with the social workers were more numerous and of shorter duration than the meetings with the teachers. A recurring topic at most of these sessions was the definition and explication of the role of the project social worker. A possible reason for the concern of social workers with their role definition appeared to stem from inadequate communications between the central staff and the local coordinators. Since the role of the social workers was being rather arbitrarily determined by the local schools, the social workers wanted the limits of their responsibilities defined and a more complete definition of the objectives and procedures of the social workers' role in the parent education program. This refined description of duties, which the social workers sought, could not be achieved during the workshop sessions. The social workers felt that the absence of a supervisor in the central staff was particularly detrimental to the coordination of their efforts in this direction. The appended recommended role for social workers was prepared by the central staff following the June 1967 workshop. (See Appendix D)

In other respects the workshops were effective in providing an exchange of ideas among the districts and between the teachers and social workers. The social workers also felt that the workshops afforded them the opportunity for understanding the overall educational objectives of the project.

IV

SUMMARY

In brief, the purpose of this report was to summarize the program of activities during the fourth year of the Preschool and Primary Education Project and to present the evaluation findings of these activities. In an attempt to actualize the main project objective of ameliorating the cultural and educational handicaps of lower socio-economic children five separate, albeit interrelated programs, were emphasized. The evaluation indicates the following:

1. Analysis of the pre- post- Peabody Picture Vocabulary Test demonstrated that in two of the six school districts the children made significant gains in IQ scores from the beginning to the end of nursery school. These gains were significant beyond the .001 level. The pooled data for the five districts offering the summer school--parent education program revealed significant IQ gains at the .01 level. A longitudinal comparison of previous nursery groups with their control groups on the Metropolitan Readiness and Achievement tests showed relatively few significant differences.

2. Social workers and teachers felt that the parent education program enhanced school acceptance on the part of the project families and elicited desirable, although unquantifiable, responses from the families.

3. Observations indicated that because of their participation in the project, children were provided with a level of social services which they otherwise could not have expected to receive.

4. The present form of the ITPA curriculum, although implemented rather than evaluated during this year of study, may not be adequate in the sense of universal adaptation in all classes for disadvantaged children. It should be noted that the usefulness which some teachers derive from portions of this program may be dependent upon their individual teaching methods.

5. While the in-service educational aspects of the project did not solve all the problems of program implementation or of social worker role definition, they were functional in providing the project center staff with direction concerning the overall objectives of the project.

6. Opinions expressed by staff personnel point out the need for more adequate communications within the local district. The need for a closer rapport among the central staff, local district personnel, and the local school administrator was also stressed.

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APPENDICES

APPENDIX A

The Metropolitan Readiness Test Analysis for the 1966-67 Kindergarten Children, Comparing the Experimental with the Control Group. Analysis for Aliquippa and Harrisburg which were included previously in Tables III and IV are excluded here.

CHESTER

Variable	Experimental (N=22)		Control (N=7)		F-Ratio	Level of Significance
	Mean Score	Standard Deviation	Mean Score	Standard Deviation		
Word Meaning	7.5455	3.2911	6.8571	1.7728	0.2758	NS
Listening	7.0000	1.8257	8.7143	2.6277	3.7814	NS
Matching	4.1364	2.9648	4.8571	2.0354	0.3556	NS
Alphabet	7.4545	3.4327	7.4286	4.7208	0.0003	NS
Numbers	7.5455	3.9488	9.0000	3.6056	0.7482	NS
Copying	3.0455	3.3732	5.0000	4.3589	1.5519	NS
TOTAL	36.7273	13.1192	41.8571	13.6800	0.7965	NS

F value required: 4.21 (.05 level) df = 1,27

ERIE

Variable	Experimental (N=38)		Control (N=9)		F-Ratio	Level of Significance
	Mean Score	Standard Deviation	Mean Score	Standard Deviation		
Word Meaning	7.9737	13.4697	5.7778	1.9861	0.2341	NS
Listening	9.2895	2.0389	9.1111	2.6194	0.0499	NS
Matching	5.6053	3.2344	6.6667	3.0822	0.7966	NS
Alphabet	5.9211	4.4925	7.0000	4.5826	0.4167	NS
Numbers	9.3947	4.1430	12.2222	5.0194	3.1290	NS
Copying	4.9474	3.4480	6.6667	4.5826	1.5923	NS
TOTAL	40.9211	12.0861	47.3333	18.3439	1.6629	NS

F value required: 4.06 (.05 level) df = 1,45

ALBERT GALLATIN

Variable	Experimental (N=32)		Control (N=19)		F-Ratio	Level of Significance
	Mean Score	Standard Deviation	Mean Score	Standard Deviation		
Word Meaning	6.0625	3.3595	6.0526	2.3915	.0001	NS
Listening	8.7813	3.3479	7.7895	2.6994	1.2005	NS
Matching	3.7188	3.9776	3.6842	3.7276	.0009	NS
Alphabet	6.5625	5.2850	6.4211	4.3117	.0097	NS
Numbers	9.5625	5.6336	9.8421	5.2838	.0307	NS
Copying	4.5000	4.0640	5.8947	4.6535	1.2601	NS
TOTAL	39.0938	22.1467	40.2105	18.5699	.0340	NS

F value required: 4.04 (.05 level) df = 1,49

APPENDIX A

The Metropolitan Readiness Test Analysis for the 1966-67 Kindergarten Children, Comparing the Experimental with the Control Group. Analysis for Aliquippa and Harrisburg which were included previously in Tables III and IV are excluded here.

POTTSTOWN

Variable	Experimental (N=31) Mean Score	Experimental (N=31) Standard Deviation	Control (N=9) Mean Score	Control (N=9) Standard Deviation	F-Ratio	Level of Significance
Word Meaning	5.7419	2.3376	4.8889	3.0185	.8144	NS
Listening	8.4839	2.0309	7.6667	3.4278	.8129	NS
Matching	6.1613	2.4508	7.5556	4.3044	1.5689	NS
Alphabet	7.2258	3.4805	5.0000	3.3541	2.8960	NS
Numbers	9.1613	3.4554	10.2222	4.9441	.5387	NS
Copying	3.0968	2.8908	5.0000	5.0744	2.1022	NS
TOTAL	39.8710	9.4401	40.3333	19.7547	.0098	NS

F value required: 4.10 (.05 level) df = 1,38

POOLED SIX DISTRICTS

Variable	Experimental (N=206) Mean Score	Experimental (N=206) Standard Deviation	Control (N=84) Mean Score	Control (N=84) Standard Deviation	F-Ratio	Level of Significance
Word Meaning	6.6796	6.2120	5.6071	2.3182	2.3652	NS
Listening	8.5388	2.3553	8.2976	2.5116	.6020	NS
Matching	5.6699	3.2033	5.8452	3.4728	.1702	NS
Alphabet	6.7233	4.1551	6.1190	3.8789	1.3105	NS
Numbers	9.5485	4.1361	9.5476	4.2664	.0000	NS
Copying	4.6456	3.4010	5.5238	4.0908	3.5246	NS
TOTAL	41.4320	13.9232	41.0476	15.3481	.0428	NS

F value required: 3.88 (.05 level) df = 1,288

APPENDIX A

The Metropolitan Achievement Test Primary I Battery Analysis for the 1966-67 First Grade Children, Comparing the Experimental with the Control Group. Analysis for Erie which was included previously in Table V is excluded here.

ALBERT GALLATIN

	Experimental (N=29)		Control (N=21)			
Variable	Mean Score	Standard Deviation	Mean Score	Standard Deviation	F-Ratio	Level of Significance
Word Knowledge	21.10	6.47	19.67	7.81	.5051	NS
Word Discrimination	21.90	7.10	20.57	8.52	.3587	NS
Reading	18.31	8.94	19.24	9.19	.1282	NS
Arithmetic Concepts & Skills	41.38	15.30	40.76	15.13	.0200	NS

F value required: 4.04 (.05 level) df = 1,48

ALIQUIPPA

	Experimental (N=33)		Control (N=30)			
Variable	Mean Score	Standard Deviation	Mean Score	Standard Deviation	F-Ratio	Level of Significance
Word Knowledge	21.55	6.85	21.56	8.28	.0001	NS
Word Discrimination	21.30	7.28	21.17	8.26	.1945	NS
Reading	18.30	6.91	19.97	8.60	.7221	NS
Arithmetic Concepts & Skills	43.39	9.98	42.80	13.03	.0417	NS

F value required: 4.00 (.05 level) df = 1,62

CHESTER

	Experimental (N=33)		Control (N=15)			
Variable	Mean Score	Standard Deviation	Mean Score	Standard Deviation	F-Ratio	Level of Significance
Word Knowledge	16.18	7.84	13.07	7.58	1.6596	NS
Word Discrimination	15.70	9.91	15.53	6.85	.0034	NS
Reading	18.76	8.46	17.93	7.70	.1032	NS
Arithmetic Concepts & Skills	38.91	12.45	35.80	13.34	.6151	NS

F value required: 4.05 (.05 level) df = 1,46

APPENDIX A

The Metropolitan Achievement Test Primary I Battery Analysis for the 1966-67 First Grade Children, Comparing the Experimental with the Control Group. Analysis for Erie which was included previously in Table V is excluded here.

HARRISBURG

Variable	Experimental (N=26)		Control (N=27)		F-Ratio	Level of Significance
	Mean Score	Standard Deviation	Mean Score	Standard Deviation		
Word Knowledge	15.46	7.29	16.37	8.74	.1682	NS
Word Discrimination	13.62	6.97	16.67	9.20	1.8399	NS
Reading	13.58	7.70	13.22	8.29	.0260	NS
Arithmetic Concepts & Skills	26.23	13.54	29.11	14.29	.5667	NS

F value required: 4.03 (.05 level) df = 1,51

POTTSTOWN

Variable	Experimental (N=21)		Control (N=25)		F-Ratio	Level of Significance
	Mean Score	Standard Deviation	Mean Score	Standard Deviation		
Word Knowledge	20.86	9.28	20.44	6.41	.0323	NS
Word Discrimination	22.48	9.58	21.44	6.98	.1794	NS
Reading	24.10	11.38	23.16	7.94	.1072	NS
Arithmetic Concepts & Skills	49.00	13.52	46.36	12.91	.4573	NS

F value required: 4.06 (.05 level) df = 1,44

POOLED SIX DISTRICTS

Variable	Experimental (N=154)		Control (N=136)		F-Ratio	Level of Significance
	Mean Score	Standard Deviation	Mean Score	Standard Deviation		
Word Knowledge	18.66	8.06	19.43	8.24	.6585	NS
Word Discrimination	18.47	8.99	20.05	8.29	2.3892	NS
Reading	18.27	9.09	18.79	8.67	.2472	NS
Arithmetic Concepts & Skills	39.34	14.61	40.52	14.54	.4715	NS

F value required: 3.89 (.05 level) df = 1,288

APPENDIX B

The Analysis for the First and Second Grade Children of the Centennial School Comparing the Experimental to the Control Children. Analysis of the Nursery and Kindergarten Children which were included previously in Tables VI and VII are excluded here.

FIRST GRADE METROPOLITAN ACHIEVEMENT TEST PI BATTERY

Variable	Experimental (N=23)		Control (N=17)		F-Ratio	Level of Significance
	Mean Score	Standard Deviation	Mean Score	Standard Deviation		
Word Knowledge	19.65	8.94	23.06	9.04	1.4068	NS
Word Discrimination	20.00	9.26	22.59	7.93	.8598	NS
Reading	22.04	10.97	22.29	8.73	.0060	NS
Arithmetic Concepts & Skills	41.48	11.51	43.06	13.33	.1611	NS

F value required: 4.10 (.05 level) df = 1,38

SECOND GRADE METROPOLITAN ACHIEVEMENT TEST PII BATTERY

Variable	Experimental (N=17)		Control (N=26)		F-Ratio	Level of Significance
	Mean Score	Standard Deviation	Mean Score	Standard Deviation		
Word Knowledge	25.47	7.20	23.42	6.11	1.0024	NS
Word Discrimination	28.35	5.99	27.77	5.92	.0990	NS
Reading	31.18	10.58	31.38	9.58	.0045	NS
Spelling	22.88	7.86	21.85	5.44	.2620	NS
Arithmetic A	30.12	8.11	30.35	6.96	.0097	NS
Arithmetic B	23.53	5.76	23.85	6.08	.0291	NS
Arithmetic C	53.65	12.87	54.19	12.31	.0195	NS

F value required: 4.08 (.05 level) df = 1,41

APPENDIX C

Supplementary Activities Conducted During Year at One Project District

Description of Supplementary Activity	Number of Children Attending	Not Attending	Number of Parents Attending	Not Attending	Purpose of Activity	Rating of Activity
1. Parents' Meeting	0	40	18	23	Acquaint parents with the winter program and the role they would play	good
2. Trip to Department Store	22	18	17	23	To see window display and Santa. To help parents see the display of educational toys that are available for Christmas gifts	good
3. Christmas Party	27	12	23	15	Christmas workshop. Making of centerpieces and door displays. Social Party	excellent
4. Trip to Library	6	31	4	33	To introduce the correct use of library for parents and selection of children's books	fair
5. Trip to Airport	20	16	11	25	To see what a jet airliner is like inside as well as out	excellent
6. Trip to Park	11	24	4	31	To feed squirrels and pigeons and see things on our walk to discuss in the neighborhood	fair
7. Trip to Lake	17	18	8	27	To see the growth of beautiful tulips. To observe and identify swans and ducks. For sheer enjoyment of nature	good
8. Visit to Zoo	31	4	21	14	To visit zoo to learn names of animals in the zoo	excellent

Primary purpose of all field trips was to enrich the backgrounds and experiences of the children.

APPENDIX D

ROLE OF SOCIAL WORKER

General Program Objective: To so improve the education of disadvantaged children that the probability of their continued success in school will be increased.

One of the basic barriers to the disadvantaged child's school success stems from his inability to understand or use the language of the school. Children from middle class homes learn this language and enter school with highly developed language and thinking skills because their homes provide an abundant learning environment for developing intellectual and language skills.

The focus of this program will be the child and all of the forces that influence his development along these lines. In order to develop the many facets of the child in learning situations, a team, composed of specialists in areas concerned with cognitive development, social development and health, both mental and physical, is needed to effectively work with and solve the environmental and motivational problems involved. In order for the team to function properly "all adults concerned with the child need to clarify what each can bring to the other's understanding of the child, and what each can appropriately do to help him."

The participation of the social worker on this team will revolve primarily around the following two facets of the overall objective:

1. Helping the child cope with crises relating to home and school.

2. Helping the parents provide the type of home environment that will stimulate intellectual growth.

This environment is one that is basically free from strong emotional and physical problems, provides a good model for language development and encourages the use of language, provides opportunity for expression resulting from direct contact and interaction with the world around us and vicarious experiences with books, pictures, films, and television, provides an opportunity to attack and solve problems, encourages thinking about what he sees, hears, and experiences, emphasizes intellectual achievement, and provides democratic and warm parental relationships (adapted from Benj. Bloom, 1965).[4]

The latter objective will be implemented primarily through what shall henceforth be known as the parent-education program. This program will be a concerted effort on the part of the social workers and teachers to:

1. Encourage parents to become involved in and participate in the total school program.

2. Promote in parents an awareness that support and reinforcement are necessary elements of the learning process.

3. Dispel the notion that reinforcement means coaching in reading, spelling, or filling in worksheets or coloring books and to replace this idea with that of the importance of providing a stimulating home environment for developing intelligence.

Some suggested means for furthering the factors that constitute a favorable environment are:

1. Good models of language usage

    a. Grammatically correct language
    b. Wide range of oral vocabulary
    c. Use of a range of grammatical forms
    d. Clear enunciation
    e. Pleasant voice quality

2. Encouragement of the use of language

    a. Teach words to the child at every opportunity. Give him words or symbols to attach to objects and events that he meets in his environment.

    b. Corrective feedback: Encourage him to say the word, correct him when he says it incorrectly or applies it to the wrong object or event, and reward him when he uses it correctly.

    c. Respond to his statements and answer his questions.

    d. Encourage him to use words and language to express his own emotions, intentions, and desires.

3. Opportunities for direct contact and interaction with the world around us and with vicarious experiences represented by books, pictures, films, television

    a. Take him to the stores, parks, libraries, zoos, etc., and talk to him about what he sees. Stimulate him to think about similarities, differences, and relationships in the world around him.

   - b. Provide toys, games, and manipulative objects and motivate him to engage in purposive activities with these and to increase his span of attention.
   - c. Provide blank paper and colors, scissors, paste, and old magazines and motivate him to express himself with these media.
   - d. Read to him every day and listen and respond to him as he memory-reads familiar books to you.
   - e. Curtail his television viewing to programs for children and talk to him about them.
   - f. Point out signs and labels related to his interests and make him aware of the meaning of symbols.

4. Opportunities to attack and solve problems

   - a. Problems related to play
   - b. Problems related to toys and games
   - c. Problems related to personal needs
   - d. Problems related to child's chores and responsibilities

5. Encouragement to think clearly about a variety of issues

   - a. Ask questions about the books you read to him, pictures, and television shows.
   - b. Ask questions about relationships, similarities, and differences.
   - c. Encourage him to think about household routines, and responsibilities that are at his level of maturity.

6. Maximum verbal interaction between adults and children

   - a. Converse with your children at meals, playtime, and throughout the day.
   - b. Sing with them and say rhymes and poems.
   - c. Teach them to listen when you talk and respond to questions and statements.

7. Emphasis of intellectual achievement on the part of parents

   - a. Praise him for making good responses to all the foregoing kinds of stimulation.

   b. Give approval and show interest in his drawings, his manipulative activities, and his use of words, singing, and knowledge of nursery rhymes.

8. Democratic and warm parental relationships

   a. Employ "love-oriented" psychological techniques rather than harsh methods of discipline.

   b. Build up his confidence in his abilities.

In order to move toward the achievement of the objectives for parent education, the social worker will:

1. Endeavor to develop a trusting attitude on the part of parents toward the school and the teacher by making the parents aware that the school and teacher really care about what happens to the child and the family.

2. Endeavor to increase parental self-esteem by making him aware of our appreciation of his individuality and worth and that we believe he has something to offer; that we need the parent's help in educating his child.

3. Encourage parents to observe and participate in the classroom and thereby learn about the kinds of activities that promote intellectual development so that they will be able to gradually improve the intellectual environment within the home.

4. Encourage an open door policy within the school wherein parents are always welcome and are included in all activities of the school.

5. Help parents find more joy in family living by providing for many informal group discussions and meetings in which the needs and concerns of the parents are determined by sensitive listening and then met through informal workshops, trips, discussion leaders and other informal activities.

6. Work as a member of the teaching team in order to make other team members aware of causes of children's behavior problems.

7. Make teachers aware of the upsets and problems that arise in families, the response to the threatening events, and the coping tasks involved in handling the crises.

It will not be the social worker's duty to do the following or if these must be done, only until parents or secretaries can perform them:

1. Arrange chairs
2. Be attendance officer
3. Operate film projectors, etc.
4. Purchase food
5. Send notices

The social worker's case load will involve the following:

1. The case load of the social worker will be confined to the children and families who are entered in the project.

2. By families it is understood that siblings of program children are included.

3. The maximum case load will be 80 families.

PY H918.17/8
1967-68

PRESCHOOL AND PRIMARY EDUCATION PROJECT

1967-68 ANNUAL PROGRESS REPORT

to

THE FORD FOUNDATION

Authors

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Commonwealth of Pennsylvania

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ACKNOWLEDGEMENTS

Major financial support for this project was received from the Division of Education and Research of The Ford Foundation. Sincere thanks are extended to Marjorie Martus, Assistant Program Officer, and Paul Nachtigal, Ford Consultant, for their constructive criticism and advice.

Grateful acknowledgement is made to Dr. Robert B. Hayes, Director of the Bureau of Research, Department of Public Instruction, whose active interest and cooperation made it possible to solve most of the problems of administration and communication with comparative ease, and to Dr. Frank M. Durkee, Director of Applied Research, who handled all budgetary matters.

Appreciation is expressed to the school district coordinators, Mrs. Betty Mellor, Dr. Duane Smith, and Mr. George Plava, who recruited teachers, saw to it that adequate classroom space was available, helped to coordinate all components of the program within the schools, and between the central staff office and the schools, and offered many constructive suggestions in regard to program and procedures.

The contribution of the school principals, Mr. George Zorger, Mr. Carmen Guappone, and Mr. Charles Loughery, who left the project school in February and was replaced by Mr. Arnold Linley, is especially appreciated. Their interest and assistance was largely responsible for the excellent morale among the teachers. They established a climate within their schools where exploration and change on the part of teachers was encouraged.

A particularly heartfelt thanks is given to all of the teachers - Mrs. Beverly Schwartz, Mrs. Mary Hudders, Mrs. Doris Hays, Miss Jean Pugh Miss Jean Erdmann, Mrs. Kathryn Runkle, Miss Mary K. Griner, Mrs. Alfreda Marhefka, Miss Patti Brownfield, Miss Mary Kimball, and the teacher aides, Mrs. Shirley McClure, Mrs. Joan Smallwood, and Mrs. Sally Stewart, whose willingness to experiment, ingenuousness, interest in children, and desire for their own professional growth made the year a success.

Special recognition is given to Miss Linda Mills, Mrs. Belle Lustig, and Mrs. Ellen McGill, the social workers, whose understanding of the rationale for the school program, and whose tireless efforts and deep concern for people made possible the high degree of parent participation and involvement in the program.

Sincere thanks is extended to the social workers' secretaries, Mrs. Hazel Slabaugh, Mrs. Pearl Brandt, and Mrs. Dolores Koenig, for their assistance.

ACKNOWLEDGEMENTS (CONTINUED)

Sincere thanks is extended to the secretarial staff at the central office, Mrs. Catherine Hollenbaugh and Mrs. Darby Leppert, for their able assistance. Particular thanks is extended to Mrs. Theo Bolan whose conscientious work, knowledge of the previous activities of the project, and attention to the smallest detail proved most valuable. Special recognition is given to Mrs. Catherine Hollenbaugh for her excellent work and endless patience in typing this report.

Appreciation is expressed to Russell Dusewicz, Research Assistant, who aided in the testing and in the statistical procedures used in the analysis of data, and whose specialized skills were of invaluable assistance in setting up and running the data at West Chester State College Computer Center.

A special expression of appreciation is extended to Mr. Donald Vaughan, Director of Learning and Pupil Services of Centennial School District, whose enthusiasm for the program, and whose frequently voiced words of encouragement boosted the morale of the Program Director more often than he will ever realize.

PURPOSE

The intent of this report is to review the progress, problems, and findings of the project at the end of the fifth year. This review will include a description of the programs and services developed and operated, the evaluation design established, and the evaluation findings at the conclusion of the fifth year with implications of these findings for the project's sixth year.

PROJECT BACKGROUND

Goals and Assumptions

The project's objectives as stated in the original proposal to The Ford Foundation submitted in May, 1963, are four:

1. To develop an educational program for culturally disadvantaged children from ages three to nine which compensates for specific behavioral deficits and which also recognizes and rewards the positive aspects of the child's behavior.

2. To develop more effective relationships between all health and service agencies and the schools so that they can serve better the children and the parents of families living in culturally disadvantaged neighborhoods.

3. To develop ways that the school can change the attitudes and behavior of parents so that they will positively influence their children's development and education.

4. To improve the educational preparation of teachers and other professionals who are presently serving, or will serve, the culturally disadvantaged child.

These objectives were based on the following major assumptions:

1. Culturally disadvantaged children can be better prepared to succeed in the first year of school if they begin preparation while they are three to four years of age.

2. These children will do better work in the primary grades of school if the educational program for these grades is articulated with the preschool and if it is designed specifically for the characteristics of culturally disadvantaged children.

3. These children will perform more successfully in school if their physical and psychological problems are attended to.

4. Parents of culturally disadvantaged children will take a more active, positive role in assisting in the education of their children if they learn how better to perform this role.

5. Teachers will become more effective with culturally disadvantaged children if they learn more about the characteristics of these children and ways to assist them to learn.

The first year of the project, reported at length in a previous project publication[1], was concerned principally with administration and design.

By the second year of the project, the staff hypothesized that a program specifically oriented to correct certain aspects of a child's language disabilities would generate the most significant improvement in his future school performance.[2] This sixth assumption became the basis of the project's program for its second, third, and fourth years. Instead of implementing the original Objective I (developing a continuous progress program for children from three to nine) the project concentrated on the trying out of a very specific aspect of the nursery and kindergarten program: activities assumed to remediate various language disabilities in children as revealed on the Illinois Test of Psycholinguistic Abilities. The efforts of the project during these years concentrated on developing and using in the schools a preschool diagnostic language program (which became known as the ITPA program) and on providing limited in-service help to teachers which emphasized the ITPA test and the structure of the remedial program based on it.

Objective II was not implemented due to administrative problems. Objectives III and IV were influenced wholly by the type of educational program.

Inasmuch as the statistical findings for these three years gave no support to the hypothesis that children exposed to the ITPA program make better scores on the criterion measures than do children exposed to "regular" kindergartens and nurseries, or even than children with no preschool experiences, it seemed wise to shift the focus for the fifth year of the educational program (see Objective I and the first two assumptions), and to develop procedures to achieve Objective III and IV based on this revised emphasis in the educational component.

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[1] Progress Report 1963-64, Preschool and Primary Education Project, Department of Public Instruction, Harrisburg, Pennsylvania.

[2] Progress Report 1964-65, p.2-3, Preschool and Primary Education Project, Department of Public Instruction, Harrisburg, Pennsylvania.

Project Children and Families

During the first four years, there were seven project schools taking part, all of which were located in poverty areas, some rural, some suburban, some inner city. Forty children were enrolled in a nursery program in each school each year; their selection was based on specific criteria which placed them in the category of economically deprived. Demographic data on the families entering the project is listed in detail in previous annual reports. Table 1, Appendix A, gives additional data on the project families concerning social problems and other characteristics usually associated with poverty.

Due to the problem of recruiting central staff and the consequent difficulty in providing adequate supervisory and consultative services to seven pilot schools, the project for this year concentrated on three pilot schools which will from now on be called Schools X, Y, and Z. The central staff also decided not to enroll a new group of Nursery children, but instead to work at each school with the forty children who had been in Kindergarten and the forty who had been in Nursery the previous year. Ideally, then, each school would have in the project 40 children in First Grade and 40 in Kindergarten, with all children attending a full-day session. Actually, because of attrition, new enrollment, and administrative policies within each school, the numbers and practices were adapted to each situation. These differences are shown below:

Demographic Makeup	Kindergarten Organization	Number of Children	Staff
School X Rural 70% White 30% Negro	Lunch Full day	67	3 teachers
School Y Inner City 97% Negro	Home to lunch Full day	100	4 teachers 2 aides
School Z Suburban 98% White 2% Puerto Rican	2 one-half day sessions	78	3 teachers 1 aide

THE EDUCATIONAL PROGRAM

The program this year focused on Objective I from the original proposal:

> To develop an educational program for culturally disadvantaged children from ages three to nine which compensates for certain specific behavioral deficits and which also recognizes and rewards the positive aspects of the child's behavior.

The problem of how to achieve this objective was attacked in an exploratory spirit with full knowledge that the aims and procedures would continue to evolve and change as the program developed. The program was much less one of introducing new methods than of implementing several innovations that have appeared in recent years that seem most likely to be of value in achieving the goal of identifying and developing each child's individual potential.

There was no set formula or rigid set of rules to follow but rather a basic set of principles within which to operate.

Individualized Program

The basic tenet underlying the entire program is that children from so-called disadvantaged environments exhibit as many diversities in all measurable characteristics as do middle-class children. Therefore, the first consideration is to assess each child so as to decide how to articulate his school learning with what he has learned at home and how to help him move on from the point where he is. The intellectual and personal growth of each child is the prime concern.

Assessment of Individual Needs

After reviewing the current literature on the disadvantaged, on children's learning and thinking, and on the development of language and reading, the staff decided the following behaviors were important factors in present and future school success for young children.

1. Language
2. Book behavior
3. Self-selection
    a. Curiosity
    b. Interest in investigation
    c. Problem-solving
4. Group cooperation

5. Cognitive skills
    a. Observing carefully
    b. Awareness of attributes and properties of objects and materials
    c. Labeling ability
    d. Generalizing ability
    e. Awareness of contrasts and contradictions

To determine each child's status in these areas the following instruments were used:

1. Observational Check List (see Appendix B)

This informal instrument was devised by the Program Director and revised by the teachers involved. The first two sections of the check list were used as a means of structuring observations of the child in spontaneous play or work activities in order to appraise his social, investigative, and problem-solving behavior. Section III of the check list is concerned with Book Behavior and Interest in Print, and an extension was used to assess beginning reading skills. The teachers checked items under Social Behavior and Self-Direction for all children but could check under Interest in Print and Reading only when children began to exhibit some of the behavior involved.

2. Language Scale (Dr. Marion Monroe) (See Appendix C)

This informal instrument gives evidence about four characteristics of language development:

1. Willingness to communicate
2. Quality of ideas
3. Ability to define words
4. Sentence structure

3. S.M.S.G. Inventories

The subtests on this informal test provide information concerning the child's labeling ability, vocabulary, visual memory, knowledge of shapes, colors, and numbers, and his ability to order and classify. These inventories are graded but were combined into one continuous assessment for our program.

4. Metropolitan Readiness Test

This standardized test has six subtests purported to measure vocabulary, ability to comprehend phrases and sentences, visual perception, recognition of lower-case letters of alphabet, number knowledge and motor control, plus an adaptation of one drawing from the Goodenough-Harris Drawing Test.

No Grade Barriers

Rather than providing a Nursery, Kindergarten, First Grade Curriculum to which all children of a certain age or grade were exposed and either passed or failed, the program sought to eliminate grade barriers and attempted to group children for instruction on the basis of each child's level of functioning as reflected in evaluations resulting from assessment of their needs.

Team Teaching

The staff believed that a team of teachers, aides, and social worker would be better able to study children and provide for each child's continuous development. Therefore, the instructional staff operated as a team, planning, and evaluating together the learning experiences for all children in the program.

Stages of Growth

An instructional setting which fosters the goal of continuous progress for each child combines good evaluation procedures with no forced learnings yet free movement upward based on readiness for the next level of difficulty. In order to insure that instruction is adapted to the pupil's place in his own line of development, teachers must have in mind definite levels of language power and know the skills that are crucial at each level. Although there are actually no discrete steps or stages in human development, it is common and indeed necessary in the organization of instructional and learning tasks when we teach groups of children to identify stages of growth. Therefore, five stages are defined in this program. The names as well as the descriptions of behavior at each stage are arbitrary and have been used because they fit with the type of approach to the teaching of language skills advocated. Teachers as they attempt to match individuals with these levels must be aware of the gradual, easy, and natural way that children make the transition from one stage to the next as well as that in any one stage they are always maintaining and reinforcing learnings from the previous level and at the same time "setting the stage" for the next step in learning.

The Five Stages arbitrarily set up for this program with brief descriptions of the characteristics of the children at each stage are:

1. Stage of Group Adjustment

The children at this stage are either so hyperactive, distractive, and disinhibited that they are unable to direct and sustain attention in group learning situations, or so apathetic, passive, and dependent that they cannot participate. They have little or no interest in using the media and apparatus in the classroom, and any activity with the materials is usually purposeless. The program at this level should take the child to the point where he would be able to benefit from more teacher-structured activities designed specifically to develop the attitudes, abilities, and skills that will prepare him to profit from group instruction in academic tasks.

2. Pre-Reading Stage

These children are emotionally and socially adjusted to group-learning situations but are weak in motor, auditory, and visual skills and are unaware of the relationship of oral to written language. They have little or no interest in books, are unaware of printed symbols, and not interested in "finding out what it says." The program at this level should sharpen the child's perceptual skills by making him more aware of the details in what he sees and the sounds in what he hears and should develop the understanding that speech and written language are related - that printed words have their spoken counterparts.

3. Chart-Reading Stage

These children have developed fine visual discriminations so that they can see differences in letters and fine auditory discriminations so that they are aware of different beginning sounds in words and of rhyming sounds. They are able to memory-read Language Chart stories and are able to contribute to the development of chart stories relating to their own experiences.

4. Beginning Reading Stage

These children have developed a confident sight vocabulary and can associate most of the initial consonant sounds with their letters. They are interested in stories and books and in "finding out what it says." They read chart stories in a conversational tone and can write many of the words that are in their reading vocabulary and write 1 or 2 sentence stories on their own. They have learned these facts about the nature of reading:

1. Reading is gaining meaning - not just saying words.

2. There is a point-to-point correspondence in what is said and what is read.

3. Reading progresses from left to right and from top to bottom.

4. Written sentences begin with a capital and end with a period or question mark.

5. The first sound of a word in conjunction with the context (words that come before and after) can often help one identify the word.

6. Reading is fun.

5. Initial Independent Reading Stage

These children are eager to read a wide variety of material with a low enough vocabulary load so that they can gain meaning from it. They have developed a flexible, aggressive approach to attacking unknown words and are using their skills independently. They can write many of the words that are in their reading vocabulary and are writing five and six sentence stories about their interests and experiences.

In September the following directive was given to teachers to explain the use of these stages for grouping and instructional activities:

"All five- and six-year-olds except the extremely precocious should "fit" within this sequence. Further stages to this guide will be added to meet needs this year if necessary, and needs as these children move through the second and third years of school; they will include the kinds of curricular content and activities to insure each child's progress at his own maximum rate of learning throughout the third year of school.

"I am anticipating that most of our children will be in Stage 1 or 2 as they begin this year. There may be some who are ready to work in Stage 3.

"The characteristics described for Stages 2, 3, 4, and 5 become the instructional objectives for the preceding stage. For example, all of the behaviors described under Stage 4, Beginning Reading Stage are those that we will be directing our instructional procedures toward helping children in the Chart Reading Stage (Stage 3) to achieve.

"You are not to think of this as a finished program but rather as a tentative beginning which you will try to implement in your own setting. Your job in the project is to provide feedback and help clarify details of skill-sequencing and assessments as well as develop many activities and materials for the development of skills. All of us will be trying out, modifying and refining the program so that eventually we can prepare a working paper which will include:

a. Sequential list of the underlying factors that promote reading success, and of beginning reading skills.

b. A related series of observations or evaluations that will make it possible to assess each individual's status in these characteristics, and to develop minimum standards of development for each factor.

c. Suggested procedures and activities that will foster development to the minimum levels identified."

A guide to aid in relating ratings on the diagnostic instruments to the Instructional Stages is included in Appendix D.

Language Focus

The belief that facility in language structures and conditions what the child learns and how he learns, and also sets limits within which future learning can take place, is the basis for making language the focus of the program.

The kind of language program offered was determined by the following assumptions[3] concerning the development of language:

1. To use language to express logic is an outcome of activity and experiences, combined with language during and following the experience.

2. The young child has as much, if not more, to learn from his own active encounters with his physical environment and from his verbal exchanges with his peers as he has from the adult.

3. Oral language facility and awareness of the relationship between talk and print are developmentally prior abilities essential to the successful learning of reading and writing.

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[3] Almy, Millie, Young Children's Thinking. Teachers College Press, Teachers College, Columbia University, New York, 1966.

1. Classroom Climate and Physical Environment

a. Materials. In order to provide each child with opportunities to manipulate objects and materials and thus to learn to use language in settings appropriate to his age and stage of development, the teachers attempted to equip the classrooms with many fascinating and intriguing materials that invited selection and manipulation; water, soap suds, clay, finger paint, paper, wood, scrap materials, blocks, furniture, dishes, boxes, boards, buckets, materials to touch, look at, smell, scales, animals, string, bottles, mirrors - all kinds of things that will permit continued investigation by the children.

b. Organization or Room Arrangement. Providing the space necessary for using and manipulating equipment and materials became a problem to be solved in terms of each situation. The teachers tried to arrange the materials so as to invite, not confuse. The materials were introduced gradually and in at least two of the schools the entire classroom space allotted to the project team was thought of as one laboratory with different centers in each room; children selected the activity in which they wished to engage; when finished, they either moved to another activity in the same room, or to a different room if the materials or equipment they wished were not in the same room. Thus, classroom walls were removed figuratively, if not literally. Arrangement of desks and tables was flexible. There were no rows of desks, and no premium put on a place for every child to do directed work at the same time.

c. Classroom Climate. The teachers tried to create a climate for verbal interaction among children by encouraging conversation and initiating and supporting various kinds of interaction.

(1) Selection or Manipulation Time-Block

The daily schedule provided for a Selection Time-Block in which children were able to select the activity in which they wanted to engage. The teacher made herself available for talking with the children and raising questions with them. Parents and other volunteers from the community were encouraged to participate in this Time-Block, working with a small group, hearing and using language so that the children had the chance to talk through their experiences not only with their peers, but with adults. Thus, their personal conceptions of what they perceived were brought into dialogue with the conceptions of others and they became accustomed to the language of inquiry: of comparing, generalizing, hypothesizing, as well as learning names and properties of common objects in the environment.

The teachers' goal for Self-Selection was to help the child move toward increasing independence in selecting, toward more purposeful selection and use of materials, and toward a widening base of interest, not only in a wider variety of materials, but in varied uses of each material.

(2) Language Arts and Math Time-Blocks

The teacher encouraged interation in these Time-Blocks also, by assigning small groups to work together on independent activities while she worked with another small group, by encouraging children who understood a particular concept to help others, by permitting quiet conversation while working on independent tasks.

2. Grouping

In order to capitalize on the possibility of children learning from each other, the aim in grouping for the Selection Time-Block was heterogeneity, not only in achievement, but in years and grade. In Language Arts and Math, children were grouped on the bases of achievement in these areas, as determined by continuous assessment, so that educational experiences could be paced to the child's readiness for particular learnings. The aim was for flexible grouping and regrouping based on the team's evaluation of the changes in behavior observed as a result of the activities provided. There were mixed age and grade groups; the child's tested achievement was the criterion for placing him with "learning-mates," not age-mates.

3. The Curriculum

a. Reading and Its Language Arts Setting. The program aimed to develop the child's ability to communicate effectively first through listening and speaking, and when he showed readiness, through reading and writing. The content of his own experiences and interest became the first content of the language program. The teacher stimulated the children to discuss ideas, plan, gather information, ask questions, and make comments. They began with small group discussions, drawing on the life the child knows, and moving on to new experiences with the other children. She recorded some of his language under his drawings, and on the chalkboard. She tried to make him aware of print in his environment and, as he evinced an interest, began to record some of the language on charts, which she used as her initial reading materials for teaching sight vocabulary, skills, and for drill. As he acquired the concept of reading as talk written down, and began to develop a sight vocabulary, and the ability to use context clues and sound clues to decipher words, she encouraged him to begin writing. Once the child acquired the concepts about the nature of reading listed under Stages of Growth, Stage 4 (page 7), the teacher was free to choose from all reading methods and materials and apply intelligence in each individual case as she attempted to see that each child acquired a balanced repertoire of sight words, phonetic skills, context clues, comprehension skills, and learned to love reading.

b. Scope and Sequence. A beginning was made in defining the sequence of behaviors children were expected to achieve in Oral Language, Reading and Book Behavior. Assessments to determine each child's place in the sequence, and activities to match each behavioral objective, were also included. This Scope and Sequence needs much refining and modifying, and if it is actually to be the work of teachers, will probably be different for each team of teachers in each school. The work done this year is included in Appendix E.

c. Math Program. The S.M.S.G. Math program was used because it is a curricularly integrated program based on the philosphy that "mathematical ideas develop slowly and can be developed and understood most easily through activities that call for thoughtful manipulation of concrete objects, and those activities that make children aware of mathematics in their everyday lives."

There are no books, workbooks, or sheets for pupils in the beginning stages; only a teacher's manual with a wealth of ideas to develop set terminology and concepts in meaningful and reasonably natural situations throughout the school day, gradually moving to a definite scheduled time several days a week. As the children develop and become aware of the ideas and vocabulary stressed, a workbook is provided to check mastery of concepts only after introduction and practice with many concrete objects.

THE PARENT EDUCATION COMPONENT

Background

The original proposal to The Ford Foundation for the Preschool and Primary Education Project (May, 1963) stated as a third objective, "To change the attitudes and behavior of parents so that they will exert a positive influence on the educational development of their children."

Implementation of this objective for the previous year is described in the 1966-67 Annual Progress Report to The Ford Foundation. This description reveals that the kind of parent education program offered depends to a great extent on the philosophy and assumptions of the educational program. The educational program was a highly structured one specifically oriented to correct certain aspects of children's language disabilities assumed to be prevalent in all culturally deprived children. Therefore, the scope of the parent education was limited to the child's language performance to be consistent with the major thrust of the program. Parents were invited to attend nursery sessions to watch the teacher teaching the children various aspects of the ITPA curriculum and were then instructed in follow-up activities. The social workers were responsible for inviting parents, checking on those who didn't attend, providing seating arrangements, transportation if needed, and refreshments. Frequently they made home calls and assisted occasionally in the homework aspect of the program. This procedure was followed by School X and School Y. School Z confined its parent involvement to evening meetings at which films were shown with discussion following.

Rationale for Parent Education Program 1967-68

Assumptions

1. Abundant learning environment affects school success

One of the basic barriers to the disadvantaged child's school success stems from his inability to understand or use the language of the school. Children from middle-class homes learn this language and enter school with highly developed language and thinking skills because their homes provide an abundant learning environment for developing intellectual and language skills. This environment is one that is basically free from strong emotional and physical problems, provides a good model for language development and encourages the use of language, provides opportunity for expression resulting from direct contact with things and interaction with films and television, provides an opportunity to attack and solve problems, encourages thinking about what the child sees, hears and experiences, emphasizes intellectual achievement, and provides democratic and warm parental relationships (Adapted from Benjamin Bloom, 1964).

Because early environment affects irrevocably the child's ability to learn, the atmosphere of the home must be changed to provide an environment which will increase the probability of his continued success in school.

2. Change parents' mental health, attitudes, feelings first

Change must occur first in parents in the broad area of immediate physical needs, mental health, attitudes, feelings, and emotions before parents can integrate and apply specifics in child rearing or provide the type of home environment that will stimulate intellectual growth.

3. Change demands personal involvement

Since learning is internalized best when there is active participation on the part of the individual, effecting change in these areas calls for an educational experience for parents which has a high degree of personal involvement.

Objectives

General Objective

To develop ways the school can affect attitudinal, behavioral, and physical change in families and homes of children enrolled.

Secondary Objectives

Two secondary objectives regarding the participation of the social worker are implied:

1. To help the parents provide the type of home environment that will stimulate intellectual growth.
2. To reinforce those attitudes and behaviors of parents which do exert a positive influence on the educational development of their children.

Procedure

1. Requirements of School Staff to reevaluate roles

The goal of the parent education component of this project was to develop ways that the schools can accomplish attitudinal, behavioral and physical change in the families and homes of the children enrolled; to accomplish this goal, certain specific requirements were made of school staff. The social worker, teachers and administrators all were helped to reevaluate their roles to include a new concept of classroom teaching and parent education.

2. Open door policy

Schools were expected to welcome parents into the classrooms. The attitude of the school moved toward one of the "open door" which accepts the presence of parents as appropriate and beneficial to school, child, and parent. This involved the development of a mutually trusting attitude on the part of all, where parents were made aware that the school and teachers really care about what happens to the child and the family.

3. Group work

The social worker added group work with parents to her role, formerly primarily oriented to individual casework with families, to provide many informal group discussions and meetings in which the needs and concerns of parents are determined by sensitive listening and then met through informal workshops, trips, discussions, and other informal activities.

4. Team planning for active participation in the classroom

Teachers and social workers together planned for, supported, and encouraged observation and active participation of parents in the classrooms. Teachers began to rethink their teaching concepts to see that additional adults in the classroom could free the teacher to work with an individual child or with small groups of children; could give a child, with a few of his classmates or individually, the full attention of a listening and interested adult, so vital to the development of his oral language skills; could contribute abilities and special talents which would enrich the school experience for the children. The teacher then became an adult educator as well as an educator of children. The classroom offered parents a most practical learning experience as they observed the teacher working with children, saw their child interacting with his peers, and began to take responsibility for activities with the children at school. As parents learned through such a meaningful first-hand experience, they were encouraged to extend their understanding and skills into the home itself.

Implementation

The degree to which each individual school and its personnel were ready and able to accept and implement change in the concept of their individual and collective roles determined the measure of achievement of this parent education program in the nine months of its existence in the project. Many factors contributed to the success or failure of this year's programs in the pilot schools. Often, the social worker, teachers, or administrators did not fully understand this philosophy of how children learn and needed to clarify their own thinking before accepting it themselves and confidently interpreting it to parents. Lack of understanding and questioning of the value of the program for either children or parents led to resistance in many cases.

Although general directives were established for implementation of the objectives of the parent education component (see Appendix F), actual practice varied in each pilot area. Therefore, a discussion and evaluation of efforts to fulfill these goals will be considered individually.

1. School X

School X serves an area of 35 square miles of Southwestern Pennsylvania Appalachian Mountain Region. Housing consists of double, wooden frame structures built by mining companies as early as 1920. They are clustered in "patches" of about 50 homes usually heated by "heatrolas," a big coal-burning stove in the middle of one room. Much of the fuel is picked up on the coal dumps left from old mine shafts which are no longer worked in the area. Living conditions are described by the social worker as "miserable" for about 23% of the project's families, with three living in "deplorable" conditions. One large family is crowded into four rooms.

Of the 60 children of 50 families enrolled in September, 1967, 56 children of 47 families remained in March, 1968. All of these families were enrolled in the Ford Preschool and Primary Education Project the previous year.

Space was not always readily available for afternoon parents' meetings or for drop-in visits with the social worker because her office was used for part of the year as a teachers' lounge. The school was not geared to easy access of parents, perhaps because of the distance between homes and the school, and a general feeling on the part of the school staff that parents should not interfere with the school routine.

Large evening meetings were well attended with parents also participating in PTA meetings "having good topics." Three of the project parents, two mothers and one father, hold offices in the school PTA.

Weekly team meetings were planned and whenever possible the social worker, employed on a half-time basis, attended these meetings. Teachers and administrators saw a major function of the social worker as one of informing parents of unhappy situations concerning their children's school experience. The idea of sharing information and skills by members of the teaching team was never fully understood or accepted by the staff, so that there was little opportunity for the social worker to give or receive information about families. Team meetings were discontinued in April at the request of the project teachers, all of whom had resigned and seemed to have lost interest.

The social worker was a former teacher in this project and had conducted the parent education component last year, following carefully the highly structured program. The informal approach to group discussion, where topics were drawn from the parents rather than pre-planned and taught by the social worker, was a new and somewhat difficult concept for her. Small parent groups were established for afternoon parent discussions, which fell naturally into a division of four geographical areas. This allowed for an ideal grouping of five to seven parents; a total of sixteen small group meetings were held, with an average of four meetings for each area during the year. As the social worker and parents became comfortable with the informal format, they relaxed and the discussion included their immediate concerns. By May meetings, concrete subject matter of interest to parents was beginning to evolve. They began to plan for future discussion of family planning with the possible use of a sex education film and a resource speaker.

A calendar with school dates and a large assortment of parent education materials were sent home monthly. There was no attempt to include parents in the preparation of this material, which dealt with child rearing and was introduced by the social worker and discussed briefly at each small group meeting.

Classroom observations for parents were scheduled early in the school year. Parents came to school on morning buses with their children, and the teachers, who were not prepared for such a long observation period, felt it was a difficult situation. Further attempts by both principal and social worker to have parents come into the classroom to participate were vigorously opposed by the teachers. The parents seemed to want to speak with the teachers and to look in on the classroom on the day of their parents' meetings, and the teachers allowed them to do this.

The social worker in School X felt that she had close personal acquaintance with her families who would inform her about a family crisis regarding their own family or a neighbor. No such "emergency" requests for help, so typical of School Y, and Z, were brought to her attention, and she found no occurrences of child neglect or mistreatment. Resources available to these families included a county food stamp program, a school lunch program, and a clothing resource, with families contacting public assistance for help when needed.

Regular attendance at the small group discussion meetings grew throughout the school year. The parent interest is reflected in the desire to continue these meetings. Two of the project mothers were hired as teacher aides.

2. School Y

School Y is located in a large city in Pennsylvania with about half of the project families living in two thirteen-story, low cost, high-rise apartment buildings adjacent to the school, where living conditions are adequate, if not spacious.
The remainder live in run-down dilapidated housing, some of which is condemmed and marked for demolition, but still inhabited.

Of the 100 children of 80 families enrolled in September, 1967, 96 children of 77 families remained in March 1968. Fifty-two of the families presently enrolled were in the Ford Preschool and Primary Education Project the previous year.

The school library was made available for parents' meetings to supplement the small social worker office. A policy of the "open-door" was attempted with some reluctance on the part of both the school, where this was previously not encouraged, and parents, who were slow in accepting the idea of the school as a meeting place.

The social worker was anxious about her new role as a group discussion leader and attempted to develop group skills through classes and reading. Informal small group discussions were initiated on the last day of January, 1968. Out of subsequent monthly discussions a concern was expressed for many children who came to school without breakfast. A six-week breakfast program was initiated and its operation contributed to the development of a cohesive parent group. Thirty-two parents volunteered help with twenty-six parents actually participating at least once a week.

Other activities were planned in the mothers' group meetings where planning committees worked on a country trip and circus trip with the children, and a luncheon and museum tour for mothers. Seventy-five percent of the project parents participated in the activities offered. The parents planned a summer picnic and are continuing the parent discussion group on their own in view of the loss of School Y's Ford program at the end of June 1968.

The social worker attended and participated in the teaching team staff meetings. The teachers did not accept the role of the social worker as a team member easily, and were even reluctant to allow her to observe in the classrooms. The teachers and principal never really seemed to consider the importance of parent participation in the classrooms, which the social worker tried to initiate and enlarge, as a value to teacher, child, and parent. However, eight parents did participate in the classrooms as volunteer aides on a weekly basis. Their help was restricted to the afternoon selection period when parents were allowed to read stories, which had been selected by the teacher, to the children.

The social worker in School Y worked with the community in a number of ways to help establish and support programs available to project families. These included a Friends Nursery program, a hot lunch program in the high-rise apartment initiated by project parents, Planned Parenthood, community recreation programs, and Head Start recruitment. Casework was continued on an ongoing basis as needed. The social worker saw the evolution of her role this year as one of "neighborhood" oriented, developing out of the easier accessibility of her office, a more hospitable school setting, the informal discussion groups, and the growing development of trust on the part of parents. Families whose attitude was previously one of personal non-intervention, became concerned for one another so that problems identified themselves or were brought to the social worker's attention by others. This enabled her to offer more casework services and agency referrals.

Parent involvement and attendance grew steadily in School Y throughout the year. The end of the school year found parents enthusiastic about the new program in parent education and actively planning to continue their discussions and group projects. The social worker felt that the policy of open-door, coupled with the growing acceptance of the social worker as one with genuine concern and commitment to parents' needs, established an atmosphere which encouraged parents to come into the office "just to talk." Problems were revealed in this way which allowed her to offer her services easily. The social worker was able to innovate in her work with parents, be sensitive to the interests and needs expressed by her parent group, and help them to express these concerns in planning and participation. She accepted the value of the group work approach, and her interest to learn more caused her to enroll in a summer graduate course in social group work.

3. School Z

School Z is located in a suburban neighborhood and consists of eleven hundred and seventy units in barracks-type dwellings, some of two-story frame, and some of single-story cinder block. This development was built as temporary housing for a navy base in 1942 and is now independently owned. About 200 units are condemmed, 200-300 are unoccupied and in various stages of dilapidation, and other homes are in poor repair with inadequate plumbing and heating facilities. Trash is strewn everywhere, abandoned and disabled cars sit in yards, fires occur daily, dogs run loose in packs through the neighborhoods. While rent is low, additional charges for electricity, trash collection, screens, windows, electric burners for stoves, repairs, and fines for late rent, trash, children in vacant units, abandoned cars on property, etc. make living expensive for those who are not sufficiently organized to stay ahead. Heating these poorly insulated units is also costly in winter.

Of the 87 children of 83 families enrolled in the project in September 1967, only 68 children of 67 families remained in March 1968. Twenty-nine of the families presently enrolled were in the program last year.

The freedom given parents to come and go in the school building and the classrooms, a room, however small, designated exclusively for parents, and an attitude and accessibility on the part of administration and staff, have made parents comfortable about stopping in for informal talk at any time. This open-door policy encourages all school staff, teachers, secretaries, janitors, and involved parents, to make consistent invitations to other parents to participate in the classroom, discussion groups, and other school activities.

The last year's parent education program for the project consisted of evening meetings with occasional participation of parents on class trips. This year the weekly parent discussion group has become the primary phase of parent education and has developed the initial step in social work treatment for many of the families. The social worker's role has shifted so that she sees herself as a group member whose primary functions include getting people into the group through contacts at home and at school, helping each individual to use the group experience as fully as possible, helping the group to develop accepting attitudes toward each member and sensitivity to the expressed or implied needs of group members so that they may be discussed within the primary group or channeled into smaller interest or therapy groups, and being aware of people's readiness to lead and to be supportive in these endeavors. The group experience has become a way of identifying those who are ready for individual casework contact. The role of social worker then becomes that of facilitating the engagement of other community institutions and agencies with these parents.

The participation of parents as volunteer helpers in the classroom was developed through the classroom observations which were scheduled at the first of the school year. Initially, there was difficulty getting parents to volunteer in the regular classroom. Many had participated in Head Start classes and were very hesitant to work on the Kindergarten and First-Grade levels. Parents and teachers needed time to comprehend the new concept of the curriculum of the primary unit. Teachers were busy with their own adjustments to the new program and were originally resistive to dealing with parents in the classroom. A limited degree of parent aid in the classroom slowly developed over the school year. At this point the teachers are anxious to have the parents' help in the classroom and are convinced of the parents' valuable contribution to the classroom experience for the children. They are beginning to see themselves as teachers of parents, giving help and instruction for more effective participation.

The social worker has been an active and effective member of the primary unit teaching team. There has been consistently good communication regarding the needs of individual children and their families, and cooperation in providing for these needs. The social worker's early efforts to listen, support, and encourage teachers through the demands of change in curriculum and in accepting parents in the school setting helped these teachers to adjust and function in a new role. This social worker also works with the administration team, which supervises a Head Start Program in the same building and practices the same philosophy of curriculum for children and involvement for parents. The unification of efforts on the part of total school staff has resulted in a program which is available to all the families in the school, rather than just to those enrolled in special programs.

General Summary

The foregoing description of each school's parent education component very graphically shows that the effectiveness of such a program greatly depends upon the school's attitude toward parents as the school year begins.

There is no way to rush the process of change, which requires first an understanding of the philosophy, an acceptance of its pertinence to the school program, and a desire to implement the change in attitude and procedures necessary to accomplish this. Change must occur on the part of the school staff before a new concept and set of expectations can be presented to parents. Then they too need to go through the process of change. An appreciation of the time necessary to accomplish change and a consideration of the point along the line of developmental sequence where each school began the year accounts for the variety of results each school shows in parent education and involvement.

Each school has moved along in the development of the parent education component as it was conceived this year. The schools and the staff have been supported throughout by monthly visits of the Family Life Consultant and more frequent visits by the Program Director of The Ford Foundation Project. Growth is evident in increased parent attendance, their desire to participate, their interest in the child's school activities, and the observable changes in their attitudes about themselves, their children, and the school.

TEACHER IN-SERVICE PROGRAM

The objective for this component of the project was to bring about change in teacher attitudes and classroom behavior by providing substantial continuing assistance to the teacher aides, and social workers implementing the program.

Workshops

Two general workshops for the total staff in all three schools were held: one five-day workshop in August, and one-day meeting in January. Agenda for these are included in Appendix G. The general aim of the first workshop was to teach new concepts and techniques (including non-graded and team teaching concepts), acquaint teachers with some of the possibilities in materials, and explain the assessment instruments to be used. The parent-education consultant worked one day with social workers in order to clarify their role as team member and parent educator. The January meeting was arranged to provide opportunities for teachers and social workers to exchange ideas with others involved in the project.

Consultant Services

Twice a month the Program Director spent a day at each school. In the morning she was available to consult with individual teachers or work with the children. The aim was to show the staff ways in which every activity can be an occasion for conversation that will increase the child's vocabulary and enlarge his capacity for communicating, with the emphasis on helping each child develop.

Team Meetings

In the afternoons on these biweekly visits, substitutes were hired thus releasing the teachers from classroom duties; the Program Director participated in team meetings with the teachers, the social worker, principal, and coordinator. The aim of the Program Director was to encourage staff members to express their thoughts, observations, and feelings and to consider all these in relation to the development of children and the implementation of curricular objectives. The Program Director planned a discussion of certain aspects of the program for each meeting at every school, but it soon was evident that the teachers at each school had different needs and the discussions had to be planned according to needs of each staff. Topics discussed included materials, grouping, scheduling, individual problems of children and teachers, parent involvement, discipline, behavioral objectives, team planning, evaluation instruments, language development, and current problems of the team.

EVALUATION

Educational Program

The academic content of the program was evaluated in terms of a pretest-posttest procedure. This design included a series of measures considered appropriate because of their diagnostic value as regards the individual child, as well as their descriptive value as regards within- and between-school comparisons.

1. Testing Procedures

The Oral Language Scale (OLS), the S.M.S.G. Math Inventory (SMSG), and the Metropolitan Readiness Test (MRT) were administered to the five- and six-year-olds in both September and May as pre- and posttest measures. The Metropolitan Achievement Test (MAT) was administered only in May to the six-year-olds as an additional posttest comparison. The Metropolitan Readiness Test was used as a pre- and posttest measure because the results of September testing yielded a low pretest level of performance, and a wide range for improvement. This rationale was borne out in the posttesting, where no subject attained a perfect score.

The OLS administered was one originally devised by Marion Monroe for individual, diagnostic use by the classroom teacher.[4] Monroe states that "a child's verbal interpretation of a picture gives the teacher the opportunity to observe several aspects of language in a single, very simple, informal test."[5] The OLS consisted of one stimulus picture chosen by the tester to satisfy these criteria: (1) there should be two or more easily recognized characters in the picture, such as a boy, girl, baby, father, mother, or pets; (2) there should be a central activity or "story," such as playing a game, having a picnic, or baking a cake; (3) each character should be doing something different; and (4) the setting or background should be appropriate enough to indicate where the action is taking place, but should not contain so many items as to distract from the main theme.[5]

The picture was presented individually to each child in a child-adult situation. After rapport had been established, each child was told:

> "I want you to look at this picture and tell me everything you can about the picture. What can you tell me about the picture?"

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[4] Monroe, Marion. Growing Into Reading. New York: Scott, Foresman and Company, 1951.

[5] Ibid, p.75.

[6] Ibid, p.75.

If the child hesitated to speak, the tester added, "What do you see?" The child was then allowed to verbalize as he chose and all responses were recorded verbatim on paper by the tester. After the child's first stop, the tester probed once by saying, "Is that all?" An average of five sample verbalizations were collected for each child. After the child finished verbalizing about the picture, the tester chose five words (names of objects) which had been used by the child in his replies and asked the child to tell what each one was (e.g., "What is a wagon?"). Again all responses were recorded verbatim.

Each child's response was rated by the investigator on four five-point scales corresponding to the four subtests of the OLS:

A. Quality of Ideas 1 2 3 4 5

1. Concerned with the immediate environment.
   Objects and events are seen as separate items,
   e.g., boy, girl, dog, wagon.

2. Sees a relationship between the actor and action,
   e.g., boy is running, dog is barking.

3. Sees descriptive qualities or characteristics,
   e.g., little boy, brown dog, red wagon.

4. Can see cause and effect relationships and
   make deductions,
   e.g., little boy likes the dog, the wagon belongs
   to the little boy.

5. Can generalize situations and relate situations
   to his own experiences,
   e.g., my dog is different from the boy's dog, not
   all dogs look like that.

B. Ability to Define Words 1 2 3 4 5

1. Cannot verbalize any definition.

2. Defines by simple repetition of word,
   e.g., ball is a ball.

3. Defines by stating use or function,
   e.g., to play with.

4. Defines by stating descriptive qualities,
   e.g., made of rubber, it's red, it's round.

5. Defines by generalizing, classifying or giving a
   variant meaning of the object,
   e.g., a kind of toy, where you can dance,
   baseballs are smaller than basketballs.

C. Willingness to Communicate 1 2 3 4 5

1. Speech is blocked and/or incomprehensible.
2. Hesitates to volunteer information.
3. Can communicate basics.
4. Discusses the subject clearly.
5. In addition to clear discussion, ability to integrate present experiences with future and past.

D. Sentence Structure 1 2 3 4 5

1. Not enough verbalizing to be rated.
2. Speaks in phrases, dependent clauses.
3. Subject - verb - object linked with ands.
4. Uses complete simple sentences correctly punctuated.
5. Standard syntax, connection of related ideas, more complex sentences, use of dependent clauses.

The S.M.S.G. (School Mathematics Study Group) Inventory was also diagnostic in nature. Developed as a measure to determine placement in math ability groups, the S.M.S.G. Inventory is part of a special curriculum project for culturally disadvantaged primary school children. The test, as does the subsequent math program, emphasizes manipulable and concrete materials and relevant responses. The inventory is basically an evaluation of readiness of the children to learn mathematical concepts. The test as administered was modified somewhat for the purposes of this project and structured into twenty-five sub-sections. These sections were as follows:

1. Object Recognition - measuring the ability to name a series of commonly encountered objects.
2. Photo Recognition - measuring the ability to name a series of pictures of commonly encountered objects.
3. Vocabulary - measuring the knowledge of a series of words generally relevant to primary math processes.
4. Object Memory - measuring the short-term retention of tangible object configurations.

5. Picture Memory - measuring the short-term retention of pictured object configurations.

6. Matching Colors - measuring the ability to match samples of colors with other samples of the identical colors.

7. Naming Colors - measuring the knowledge of color names.

8. Identifying Colors - measuring the passive knowledge of color names by the ability to select the proper color when given the name.

9. Matching Shapes - measuring the ability to match samples of shapes with other samples of the identical shapes.

10. Naming Shapes - measuring the knowledge of shapes names.

11. Identifying Shapes - measuring the passive knowledge of shape names by the ability to select the proper shape when given the name.

12. Equivalent Sets - measuring the ability to construct with blocks sets of the same content as those presented on a series of cards.

13. Counting Buttons - measuring the ability to count series of buttons.

14. Counting Sets - measuring the ability to count the members of series of sets.

15. Rote Cardinal Numbers - measuring the knowledge of the sequence of cardinal numbers from 1 to 100.

16. Rote Counting by Tens - measuring the ability to count by tens from 10 to 200.

17. Recognition of Number Symbols - measuring the knowledge of number symbol names selected from 1 to 100.

18. Identification of Number Symbols - measuring the passive knowledge of number symbol names by the ability to select the proper number when given the name.

19. Marking Number Symbols - measuring the ability to write numbers selected from 1 to 100.

20. Naming Place Value - measuring the ability to name the number value of sets of objects composed of sets of tens and ones.

21. Forming Place Value - measuring the ability to form specified sets from given sets of tens and ones.

22. Ordinal Numbers - measuring the ability to indicate the correct block in a series given its ordinal position.

23. Triangles - measuring the ability to select the triangles from a display of shapes and order them from smallest to largest.

24. Circles - measuring the ability to select the yellow circles from a display of shapes and order them from smallest to largest.

25. Ordering and Classifying - measuring the ability to separate a display of shapes into categories by shape and identify the smallest numbers of each shape category.

These sections vary in difficulty primarily on the dimensions of knowledge - ability, passive knowledge - active knowledge, and concrete - abstract.

Three testers administered sections of the inventory individually to each child. After the raw score totals for each subtest were recorded, all were converted to a four-point system for purposes of evaluation. Since there were twenty-five subtests in all, a perfect score would be 100.

The Metropolitan Readiness Test administered consisted of six subtests - word meaning, listening, matching, alphabet, numbers, and copying. The MRT was devised "to measure the extent to which school beginners have developed the several skills and abilities that contribute to readiness for first grade instruction.[7] It has been suggested by the authors of the MRT, that its results may be used (1) to obtain a quick indication of the readiness of each pupil to do first grade work, especially with reference to the learning of reading and arithmetic; (2) as an objective, reliable basis for initial grouping of pupils for instructional purposes; to adapt instruction to the level of the class and of subgroups that may be organized; and (3) to determine (later) whether pupils have progressed in accordance with their readiness or aptitude, by comparing readiness test results with achievement test results or teacher grades at the end of the year.[8]

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[7] Hildreth, Gertrude H., and Griffiths, Nellie L., and McGauvran, Mary E. Manual of Directions - Metropolitan Readiness Test. New York: Harcourt, Brace, and World, Inc., 1966, p.2.

The MRT was administered to groups of twenty-five subjects by one tester, aided by two other adults as proctors. The manual was followed verbatim for actual testing procedures.

Scoring by trained personnel yielded raw scores and grade equivalent scores for the six subtests and total.

The Metropolitan Achievement Test administered in May to the six-year-olds consisted of four subtests - word knowledge, word discrimination, reading, and arithmetic skills. Some of the uses of the MAT's results as suggested in the manual are (1) to determine the planning instruction best adapted to the pupil's needs, and (2) to compare present achievement with past achievement in order to determine and evaluate rate of progress.[9]

The MAT was administered to groups of twenty-five subjects by one tester, aided by two other adults as proctors. The manual was followed verbatim for actual testing procedures.

Scoring by trained personnel yielded raw scores and grade-equivalent scores for the four subtests and total.

2. Test Results

The results from the Oral Language Scale demonstrated a consistent statistically significant improvement in all schools from the beginning to the end of the school year. These results are presented in Tables 3, 4, and 5 of Appendix A for Schools X, Y, and Z, respectively. A "correlated t" test for significant differences was performed on the OLS scores of all children for whom both pre- and posttest data were available. In all schools there was significant improvement with respect to the total scores, as well as the Ability to Define Words, the

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[8] Hildreth, Gertrude H., Griffiths, Nellie L., and McGauvran, Mary E., Manual of Directions - Metropolitan Readiness Test. New York: Harcourt, Brace and World, Inc., 1966, p.10)

[9] Durost, Walter N. and others. Manual of Directions - Metropolitan Achievement Test. New York: Harcourt, Brace and World, Inc., 1959, p. 19.

Willingness to Communicate, and the Sentence Structure subtests. In no school was there insignificant improvement in the Quality of Ideas subtest. There were no significant differences as determined by analysis of variance (Table 6, Appendix A) between the schools on either the pretest or posttest OLS. In addition an analysis of covariance, using pretest scores as the covariate, indicated no significant between-school OLS differences at the end of the project period.

The results from the S.M.S.G. Math Inventory demonstrated a consistent improvement in the skills measured in all schools. Inspection of the data presented in Tables 7, 8, and 9 of Appendix A indicates that for a majority of the S.M.S.G. subtests there was a statistically significant difference between the pretest and posttest scores. The statistical procedure employed was the "correlated t" test for matched data. As regards most of the subtests where significance was not reached, it should be noted that the pretest means were either perfect scores or near-perfect scores, thus limiting the possibility for identifiable improvement from pretest to posttest. An exception to this generalization is the Ordinal Number subtest, where the pretest scores were not especially high, yet there was no significant improvement. It should further be noted that, while there was consistent significant improvement in the difficult Ordering and Classifying subtest, the posttest means were still relatively low. Though development was fairly consistent across the schools, some differences are revealed by the between-school comparisons found in Tables 10, 11, and 12 of Appendix A. There were significant differences on the pre-measure total scores between schools, indicating different general starting points for the children in the various schools. Different finishing points are also indicated by the subsequent analysis of the posttest scores. An analysis of covariance with the pretest as the covariate showed that the improvement in School Z was not as great as that in either School X or School Y. This was anticipated since School Z concentrated on the language aspects of the program rather than the mathematical components. The improvement for School Z on the S.M.S.G. (Table 9) was greater in those subtest which were more linguistically oriented.

The results from the Metropolitan Readiness Test also showed consistent improvement over the course of the project (See Tables 13, 14, and 15 of Appendix A). In all schools the t-ratio of posttest and pretest scores was significant for the total scores, as well as all subtest scores, with the exception of Listening. There was significant improvement in School Y on this subtest also. Applying available norms to this MRT data results in the generalization that the project children began the year well into the "Low Normal" classification with respect to total means and subtest means. At the conclusion of the year, however, all scores were well into the "Average" category. An analysis of covariance (Table 16) failed to show a significant difference between schools on the MRT. A supplementary test, Draw-a-Man, adapted from the Goodenough-Harris Drawing Test was also administered. This test is designed to provide an index of general intellectual maturity. It is interesting to note that for all schools there was significant improvement beyond the .01 level of confidence from the pretest to the posttest (See Table 17). This evidence of improvement in intellectual maturity is corroborated by the results of a pre- and post-California Test of Mental Maturity administered at School Z. A "correlated t" analysis (Table 18) of the pretest-posttest differences demonstrated gains significant beyond the .01 level of confidence.

Since the Metropolitan Achievement Test was administered only once at the end of the project period to the six-year-old children, comparisons within our sample cannot be made. However, the mean grade equivalent scores for each subtest and each school are presented in Table 19 of Appendix A.

3. Evaluation Conclusions and Discussion

From the evaluative data presented above, it must be concluded that the project children improved consistently and significantly as regards the skills and capacities drawn upon by all the testing instrument employed. Since it was not an objective of this project to provide an experiment test of the efficacy of a technique of compensatory education, no control groups were included in the design. For this reason it cannot be determined from the presented statistical analyses whether these gains would have also occurred under other conditions. However, outside of the context of this project, there is much information available as to what development can ordinarily be expected of children similar to those here under discussion. This information is well summarized by a report of the United States Commission on Civil Rights: "While the data do not...suggest that compensatory education is incapable of remedying the effects of poverty on...academic achievement...(the fact remains) that none of the compensatory education programs have raised significantly the achievement of participating pupils."[10] It is suggested by the literature that the so-called "culturally deprived" child not only remains stationary in level of academic achievement, but, in consideration of the increasing age norms over time, he falls progressively behind that level which could be expected of him. In contrast to this picture the project children displayed great gains in performance. The reality of these gains is attested to by the regularity and consistency with which they occurred. There are no comparative norms available for the Oral Language Scale of the S.M.S.G. Math Inventory, but as regards the Metropolitan Readiness Test and the Metropolitan Achievement Test the project children fall into the average categories at the end of the year. The question of the permanency and transferability of these gains is an important one, and one which can be answered only by further research with these children.

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[10] Report by the United States Commission on Civil Rights. "Racial Isolation in the Public Schools," Vol. 1. U. S. Government Printing Office, Washington, D. C., 1967.

With respect to the specific abilities and disabilities of the children studied, it should be noted that our testing instruments revealed no lack of labeling ability for common objects and ideas. This is at variance with the opinion generally held.[11] It is either the case that the labeling subtests of the S.M.S.G. were not adequate, or that the results obtained by other investigators are not as generalizable as they are purported to be. The latter contention is supported by the fact that the OLS also showed the project children to be adequate in concrete naming. Our data would suggest rather that the problem lies in the ability to deal with abstractions. This was evidenced in all tasks requiring description in terms of attributes (color, size, texture, activity, etc.). Working within these dimensions has not been well established in the children studied.

The evaluation results, then, demonstrate that the present program facilitated uniform improvement in intellectual functioning. The abilities and development documented suggest that these children are progressing and should be given the future attention needed to maintain this progress. The evaluation results further suggest that a major effort should be made to find a means of bridging the gap between functioning at the concrete level and functioning at the abstract level. Naming and labeling ability is perhaps necessary, but apparently not sufficient.

Parent Education

Dave's "Index of Education Environment" was used to study the educational environment in the home. Twenty-five families were chosen at random from those enrolled in the Primary Education Project.

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[11] Ponder, Eddie G. "Understanding the Language of the Culturally Deprived Child." Elementary English, November, 1965, p.769.

Parent interviews were given by the project social workers and were completed by December 1, 1968. Parent answers to questions were probed to elicit specific comments, and direct quotations from parents were recorded. Each question was rated generally on a nine-point scale, using 1, 3, 5, 7, or 9 for scoring purposes. In-between numbers were used for shading if necessary. Questions were rated as an essay test would be, taking sample answers from the questionnaires, rating those by different criteria, and then rating the answers on the questionnaire from the rated samples. Averages for each category were obtained by averagingthe scores of the questions involved so that each family has a numerical rating for each of the categories.

1. Results

Averages for each pilot school are recorded on Table 2, Appendix A.

2. School X

a. Achievement Press. Ratings show that education is not considered as a means of accomplishment for the parents themselves and very moderate and uncertain occupational and educational goals are envisioned for children. Little praise for academic achievement. In the few instances where goals for higher education were expressed, no financial, mental or academic preparation is planned.

b. Language Model. These parents were rated "average" in the quality of language used. However, limited situations for the enlargement of vocabulary and sentence patterns are given to children. Children are not read to regularly, and few incidental efforts are made to improve vocabulary and language usage of the children.

c. Academic Guidance. There is little supervision, guidance or suggestion made available for the improvement of school work. There is indication of parent concern for the child's scholastic progress, but a lack of clarity about specific directions for help. There are few educational materials in the homes and little use of community facilities to promote the education of the child.

d. Activeness of Family. Activities in the home have hardly any direct educational value. Though outside activities are not educationally oriented, these activities seem to be centered around father on weekends. Very little reading is done by family members.

e. Intellectuality. Thought-provoking, educational toys are not commonly found. There are opportunities for the child to listen to thought-provoking discussions only occasionally. There is hardly any encouragement for independent thinking.

f. Work Habits in the Home. Testing in this area is incomplete for School X; however, indications are that no planning of household work is done. There seems to be a lack of emphasis on scholastic subjects for either children or the parents, who did not continue studies after their initial formal school experience.

3. School Y

a. Achievement Press. Scores show wide differences between parents' hopes for their children and their very low aspirations for themselves. There seems to be value given to academic accomplishments, but very low knowledge of the child's school progress, or of the school program. There seems to be little emphasis on preparation and planning for higher education for children.

b. Language Model. This area is weakest in situations available to children involving books, travel or verbal interaction in the home. Some reading to children is indicated.

c. Academic Guidance. There is an absence of educational materials available in these homes. Parents seem to reflect an interest in supervising school work, but given little or no guidance, which may reflect a lack of understanding of the curriculum and the low incidence of homework required of the children.

d. Activeness of the Family. In appraising the extremely low ratings in this area, it must be remembered that many of these families are single parent homes; thus many of the questions which asked about the father's involvement with the children had to be answered negatively, and lowered the averages considerably.

e. Intellectuality. Very low scores show both a lack of material and of encouragement by family members toward thought-provoking or educational activities for children.

f. Work Habits in the Home. Little or no planning of housework is apparent in these families. Parents rarely continued any studies after leaving school.

4. School Z

a. Achievement Press. Many of the parents in School Z were high school dropouts, and appear to have only moderate academic expectations for their children, and very low aspirations for themselves. Their hopes for their children are expressed in a typical response to the question, "How much schooling do you wish your child to receive?" Parents often said, "At least through high school." The lower rating in the area of planning for the attainment of educational goals may be a reflection of the reality of their situation, which is one of coping with the present, particularly in reference to finances.

b. Language Model. Scoring indicates only a few opportunities for travel, books, or verbal interaction in the home situation. There is an indication of some attempts to read to children and some concern for improving their language use.

c. Academic Achievement. Relatively strong scores here indicate an understanding of and appreciation for the work the child brings home, rather than a stress on homework, as no school work was assigned in this school.

d. Activeness of Family. Scoring here reflects only a few family activities in the homes of educational value and limited recreational activities which do not contribute to development of the intellect. Some reading is encourage, and family members do read occasionally to the child, and for their own information or enjoyment.

e. Intellectuality. Some thought-provoking element is found in the toys and games available to these children. Little opportunity is given for the child to gain the listening ear of a parent or to receive encouragement toward the development of independent thinking.

f. Work in the Home. Moderate planning and distribution of work is practiced. A glimmer of interest in some continuity of academic activities for both children and parents is implied.

5. General Conclusions

There were some marked differences in the results of the the three schools tested. No scores averaged above 5, which is "average" on the scale of this instrument. The averages of parents tested in School Z showed scores appreciably higher in all areas. School X scored lowest in academic achievement.

School Y scored very low in areas of Activeness of Family, Intellectuality and Work Habits at Home.

There are no great differences shown between the schools in Achievement Press and Language Model variables. In the remaining four areas tested, considerable spread is evident and probably reflects the differences in the composition of the individual schools.

Social workers were instructed to give the IEE test again to those parents of the 25 families originally tested who participated most actively in the parent activities offered. Although parent participation, recorded on tally sheets, showed increase in parent involvement in all schools, the social workers felt that very few parents participated to the extent that change would be shown on IEE posttests in the seven to eight month interval. A total of nine parents were posttested, with some increase indicated in the second testing, but the small sampling makes even the most general conclusions impossible.

The social workers did see and report growth in both parents and children which they attributed to the experiences provided for parents within the school this year. Parents showed growth by joining and actively participating in group discussions; by offering help in the classrooms to teachers; by showing a greater interest in their child's school experience, with subsequent ability shown on the part of the child to emerge himself more completely and comfortably in his school experience; by expressing or rediscovering their own interests and talents; by self-recognition of their readiness for special services, and by taking steps to secure help by expressing acceptance and interest in one another, and by supporting individual efforts of others; by accepting responsibility and positions of leadership; and finally, by taking beginning steps toward greater reliance on the strengths of other members of the parent group and accepting responsibility for themselves, their families, and their community without direction from the school staff.

The group experience, supplemented by other kinds of activities, seems to offer the best approach to strengthening individual families and the community, therefore, providing an environment more satisfying and stimulating to the child. Specific suggestions and information about educating a child will only be useful to a parent when he is ready to receive and incorporate this information. This stage of readiness is only achieved when certain fundamental conditions and needs are met. It is with these basic considerations for helping parents establish greater stability and joy in family living that the parent education component has been concerned this year.

Teacher In-Service Program

The initial workshop held in August,1967 was planned on the assumption that theory must precede practice. The consultants spent the first three days explaining the basic premises and assumptions concerning how children learn, what is important for them to learn, how to find out what their needs are, and what kinds of experiences are relevant to their needs. They invited questions and even controversy, but there was little participation or discussion on the part of the teachers. The final two days of the workshop were spent introducing and explaining some of the assessment instruments and materials that could be used to determine children's needs and help children achieve behavioral goals. Written anonymous statements from teachers and social workers at the end of the week rated the workshop from "very good" to "the best workshop I ever attended."

When school started and the Program Director began her bi-weekly visits to each school, it soon became obvious that the presentation of theory first had brought about no real changes in teacher attitudes or beliefs. The teachers were willing to try the ideas proposed because they had agreed to take part in this project, but it became very clear that none really accepted the rationale underlying the program. The consultant used the mornings on her bi-weekly visits to listen to individual complaints and problems, to work with small groups of children in order to demonstrate what theory meant in practice, and to create a climate of mutual regard and trust.

In the afternoons on the biweekly visits team meetings were held at which teachers and consultant discussed their experiences in trying out aspects of the program, and their problems, and attempted to interpret them in relation to their goals for children. The success of these meetings depended entirely on the successful creation of an atmosphere of mutual regard and trust. In contrast to the assumption underlying the workshop that theory must precede practice, in these meetings action had come first and the discussions involved reflecting upon and analyzing the practice.

The workshop in January was a one-day affair, the aim of which was to bring all the teachers concerned into personal contact to share mutual successes and problems. The degree of involvement by teachers varied greatly, but in general it seemed that those with whom the consultant had been able to achieve a satisfying and relaxed working relationship in separate school team meetings were also those who participated fully in this larger group meeting.

The important aim of all the in-service activities was the professional growth of teachers. The project used no rating scales or other devices to determine this. A person who is growing professionally is generally more aware and changes can be seen in his classroom behavior. There were wide variations in teacher growth just as there are in children's, but in all of the classrooms, to a greater or less degree, observers noted a much more relaxed atmosphere, a sense of fun in relation to learning, and a greater willingness on the part of the children to become involved with materials and to stay with them. Appendix H is a statement by one teacher with twenty-years experience describing her own awareness of her initial resistance and subsequent change.

L. G. W. Sealey[12] has said that one of the best ways of judging innovation is to see whether or not teachers and children wished to carry on with it. In School Z, only three teachers in the total staff of 12 were teaching in this program; not only do these three wish to go on, but so many of the others asked to become a part of it that next year the entire school will be organized as a non-graded, team-teaching school, attempting to establish this climate for professional growth so that teachers can explore and innovate together. School Y will not be funded by The Ford Foundation, and the three young teachers at School X have all resigned for personal reasons.

In conclusion, the staff learned a great deal about in-service education. First, the same principles apply to learning whether it be on the part of children, parents, or teachers. There is the same wide variation in all characteristics, the same need to determine where each teacher is, and plan learning experiences accordingly, the same necessity to be aware of emotional needs and self-image, and the same need for teachers to verbalize their conceptions, their feelings, and their beliefs, to become thoroughly involved. A workshop similar to the first one held in August amounts to attempting to thrust someone else's point of view upon teachers and is apt not only to be unsuccessful, but to produce resentment, irritation and disharmony.

Second, teachers are not generally accustomed to consultant services and do not know how to use a consultant. They often feel threatened by any attempt on the part of the consultant to introduce any idea or suggest any change. The establishment of a climate of mutual regard and trust between consultant and teachers is the essential first step in promoting professional growth and influencing the direction of growth or accelerating it. This is easier to achieve in some cases than others. In School Z this came about gradually in a few months, in School X this was achieved almost immediately, whereas in School Y the consultant never attained this goal.

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[12] Sealey, L. G. W., "Looking Back on Leicestershire," ESI Quarterly Report (Spring/Summer, 1966), 37-41.

Third, the degree to which teachers are willing to verbalize their feelings and beliefs, to think of themselves as learners who are trying out ideas, making mistakes, evaluating their own efforts and making educational decisions will determine the extent of their professional growth. This kind of involvement depends on the establishment of mutual regard and trust, for it is only in such a climate that teachers will feel free to innovate, to make mistakes, and to accept criticism from their peers so that they can continuously analyze their procedures in terms of what happened to children.

CONCLUSIONS AND IMPLICATIONS

Educational Program

The assumption underlying the instructional program in this project is:

Children will do better work in the primary grades of school if the educational program for these grades is articulated with the preschool (and with home learnings) and if it is designed specifically for the characteristics of culturally disadvantaged children.

In light of the findings reported in the previous chapter, the following conclusions may be declared:

In all of the schools children made significant progress in all of the language and thinking skills measured by the Oral Language Scale, the S.M.S.G. Inventory, and the Metropolitan Readiness Test, except for Quality of Ideas, Ordinal Numbers, Ordering, and Classifying. The "First Grade" children who took the Metropolitan Achievement Tests at the end of the year performed at or close to the norms for the population as a whole. In School Z where the California Test of Mental Maturity was administered at the close of the 1966-67 school year, and again at the close of the 1967-68 school year, a mean gain of eight IQ points was achieved. In all three schools gains on the Goodenough-Harris Drawing Test indicate significant improvement in general intellectual maturity.

Probably more important than test measurements are the differences teachers noted in the behavior of the children. One teacher stated that "all of the children like school now - even the slow ones." The creation of a failure-free atmosphere, in which the teacher recognized individual differences in readiness for different kinds of learning activities and established expectancies in respect to the needs and backgrounds of individual children, seemed to be the key to enjoyment of school and pride and joy in the learning tasks each was engaged in."

Also evident was a steadily increasing ability to stick to a task for longer periods of time, a widening interest in different kinds of activities, increased involvement in activities, and purposefulness in working with the varied materials. The possibilities offered in involvement and self-direction on the part of the learners, as well as the opportunity to express their ideas and feelings through a variety of media, and to gain an increasing awareness and understanding of the world around them.

Because this project is only one phase of a long-range attack on the school drop-out problem, measurements at the end of eight or ten years would undoubtedly be more meaningful in terms of this ultimate objective of reducing drop-outs. Other attainments and attitudes for which at present we have no instruments but which seem more related to a student's desire to continue his education are:

1. Precise, objective thinking
2. Intellectual curiosity
3. Ability to meet new situations
4. Concern for what is going on in the world
5. Tolerance and understanding of human differences
6. Improved self-concepts

It seems that rather than measuring little pieces of behavior as is done with most achievement tests, the problem of defining the above kinds of behavior with precision, determining ways of measuring changes in the behavior of students, and devising activities for eliciting such behavior merits investigation.

Furthermore, the data analysis was in terms of means of groups, whereas the basic principle underlying the entire program is that each child must be helped to realize his potential, that there are wide variations amongst children of any given age group, and that growth can only be determined in terms of where each child started. Therefore, the staff believes that more important than group means on the instruments is each child's record of growth on the Check List items, the verbatim recorded responses on the Language Scale, and the ratings on the Metropolitan Readiness Test.

An examination of the children's Check Lists shows that all of the children did change in the desired direction in some degree. These Check Lists were used in lieu of typical report cards to discuss each child's progress with parents at scheduled parent conferences, making it possible for the teachers to describe growth in terms of changes in specific behaviors which the school considers important.

The verbatim recordings of children's responses on the Oral Language Scale provided a revealing record of growth. A random selection of one six-year old's September and May responses shows the following change:

September: A clock, a curtain, a table, a girl, a boy

table - table
clock - a clock

May: "That boy's rakin' up the leaves and the dog's draggin' some leaves in a tub and has them in a station wagon. There's a fence and a tree."

dog - a dog runs
wagon - what you ride in
tree - it got leaves on it
leaves - they fall on the ground

The above evidence reveals that in September this child was interpreting the picture in terms of the immediate and concrete, saw no relationships, but simply named isolated, separate objects. He defined words by repeating the word; he did not use sentences and his response was very limited. In May he was much more outgoing and willing to communicate, he was using sentences, and he was relating the action to the actors. He was now defining words in terms of use or some attribute of the object.

This type of assessment not only gives the teacher concrete evidence as to each child's individual growth, but also points up the need to devise the kinds of learning activities for him that are likely to get the desired behavior. It places the responsibility for evaluation on the teachers themselves.

The ratings on the Metropolitan Readiness Test also showed a change of two levels on the five-point scale for most of the children. Every child raised his rating at least one level.

The decision of all of the teachers in School Z to become involved in the program, and the expressed hopes of administrators in both School X and Z to eventually promote this kind of program in all the schools in their districts, are perhaps the surest indications that the learning experiences offered more adequately meet the needs of children than do the traditional classroom operations now prevalent in the majority of schools.

Finally, due to lack of space in the school building, the teachers in School Z had to make decisions as to which ten of one hundred Kindergarten children should stay in the program next year, as there was room for only ten more in the team of children who were in the project this year and will continue next year. The rest of these (to be First Grade) children are to be transported to several other schools in the district. The Program Director suggested a random selection of some kind. However, the teachers decided to take the ten who were recommended by their teachers as having the most difficult, persistent problems, because they felt these children would have no chance at all in a traditional school set-up, whereas the others might be able to adjust to any school situation. This fact speaks most emphatically for the value of the program both for children and teachers.

The Parent Education Program

The assumption underlying the program for parents is:

Parents of culturally deprived children will take a more active, positive role in assisting in the education of their children if they learn how better to perform this role.

No instruments were used to test the truth of this hypothesis. The Family Life Consultant, Social Workers, and teachers observed changes in parents such as increased interest and involvement in small group discussions, increased responsibility for physical needs of their children, increased insight into causes of behavior, increased responsibility for community involvement, and involvement in observations in the classroom and acting as volunteer aides to the teacher. Statements from parents indicate their belief in the value of the activities and also clearly point up changes in the direction of greater self-confidence, more concern for what's going on in the world, and greater awareness of and interest in behavioral symptoms in their children.

All of the teachers were at first resistive toward having parents actively involved in the school, but most of them gradually became aware of the value of parent involvement to the parent, his child, and the teacher herself. This change in attitude is most clearly evident in the complaint of one teacher at the end of the year that she had only one parent who came regularly as a volunteer aide; she added that she hoped that next year the social worker could get many more parents volunteering on a regular basis.

Teacher In-Service Program

The hypothesis for this component of the program is:

Teachers will become more effective with culturally deprived children if they learn more about the characteristics of these children and ways to assist them.

Again no formal instruments were used to test this hypothesis. Changes in teachers' behavior in the classroom and changes in their feelings and beliefs were noted by the Program Director and by the teachers themselves. All of the teachers involved were accustomed to operating quiet classrooms, with children sitting still, all working on the same things, with perhaps grouping in three groups for reading. They went as a group, with no talking, in straight lines, to the toilet rooms, to lunch, recess and elsewhere in the building. The children never exchanged ideas with each other as they worked. Talking was neither approved nor allowed; the teacher was interested in getting through the work of the grade with all of the children.

During the past year gradual changes in the classroom atmosphere came about until toward the end of the year, particularly in Schools X and Z,when the Program Director visited, she saw this kind of situation:

A few children in one corner working with the teacher developing a reading chart, several painting on easels, two reading to each other, several drawing, some writing stories, a few in the playhouse putting dolls to bed, several at the reading table listening to a volunteer parent reading a story. The teacher looks up and says,"Good morning," several children come forward and want to show their drawings, or stories, or ask if you would like to see all their word cards or hear them read. All the children seem interested in what they are doing, are reasonably well occupied though undirected, speak naturally and freely to each other and adults. The overall impression is one of a relaxed, comfortable, busy, interested group of children.

Records of team meetings show a consistent change toward more verbalization on the part of the teachers and increasing insight into causes of behavior and individual readinesses for various learnings.

Implications for 1968-69

During the school year 1968-1969 two pilot schools will be in operation: School X and Z. In School Z there will be twelve teachers, seven aides, the principal and approximately two hundred eight children ranging from four to seven years old. In School X there will be four teachers, one aide, and the principal working with approximately eighty children ranging from five to seven years old. The six and seven year olds in both schools were in the project last year and will be grouped for Language Arts and Mathematics according to the assessments and other information available. These groups will change as continuous diagnosis in all teaching situations provides evidence for regrouping. All four and five year olds are new to the project, and the first job of their teachers is to study these children and use their observations and the children's performance on the assessment instruments to determine needs and groupings for instruction.

One of the major concerns of the instructional program is to find more accurate and efficient informal or formal instruments to provide information about the achievements of children. The teachers decided the Check List, Oral Language Scale, and the S.M.S.G. Math inventory did provide useful information, so these will be used again. In addition, group IQ tests will be administered and a Pre-school Inventory devised by Bettye M. Caldwell will be used with four and five year olds. The central staff and teachers will continue to explore other means of determining at what point children are in language and thinking skills, as well as in emotional and social development and motor and perceptual skills.

The data analysis this year pointed up the need to ascertain and test many types of activities to help children see relationships of various kinds, to increase their ability to classify and to seriate, and to apply all learnings in new situations.

APPENDIX A (CONTINUED)

Table 2

Dave's Index of Educational Environment

Variables	School X	School Y	School Z
I Achievement Press (av.)	2.45	2.7	3.7
1a Parental aspirations for the education of the child	3.6	4.0	4.2
1b Parent's own aspirations	2.1	2.4	3.9
1c Parent's interest in academic achievement	2.7	2.2	3.5
1e Standards of rewards for educational attainment	1.9	3.7	3.8
1f Knowledge of the educational progress of the child	2.5	1.9	3.9
1g Preparation and planning for the attainment of educational goals	1.9	1.9	3.1
II Language Models (av.)	3.4	3.3	4.1
2a Quality of the language used by parents	5.6	4.5	4.6
2b Opportunities for the enlargement and use of vocabulary and sentence patterns	2.7	2.2	3.6
2c Keenness of the parents for correct and effective language use	2.0	3.1	4.3
III Academic Guidance (av.)	1.9	2.3	4.1
3a Availability of guidance on matters relating to school work	1.3	3.0	4.3
3b Quality of guidance on matters relating to school work	2.7	2.3	4.0
3c Availability and use of materials and facilities related to school learning	1.9	1.8	4.1

APPENDIX A (CONTINUED)

Table 2 (continued)

Variables	School X	School Y	School Z
IV Activeness of Family (av.)	2.2	1.5	3.8
4a Extent and content of indoor activities of the family	1.9	1.6	3.7
4b Extent and content of outdoor activities during weekends and vacations	2.8	1.3	3.8
4d Use of books, periodical literature, library and other facilities	2.0	1.7	4.0
V Intellectuality (av.)	2.6	1.4	4.4
5a Nature and quality of toys, games, and hobbies made available to the child	2.5	1.8	4.9
5b Opportunities for thinking and imagination in daily activities	2.8	1.1	3.8
VI Work Habits in the Home (av.)	1.6	1.7	4.15
6a Degree of structure and routine in the home management	1.7	1.9	4.8
6b Preference for the educational activities over other pleasurable things	1.6	1.6	3.5

Table 3

School X
Analysis of Gains on the
Oral Language Scale

Subtest	Pretest Mean	Posttest Mean	Pretest SD	Posttest SD	t Ratio
1. Quality of Ideas	1.85	2.26	0.85	1.04	1.66
2. Ability to Define Words	3.00	4.07	0.67	0.86	5.04**
3. Willingness to Communicate	3.15	4.19	0.70	0.47	7.10**
4. Sentence Structure	3.19	3.67	0.67	0.82	2.56*
Totals	11.19	14.15	2.54	2.34	5.12**

The significance test was a "t" test for correlated data performed on the pretest and posttest scores of all subjects (n=27).
*$p < .05$, 2.06 **$p < .01$, 2.79

Table 4

School Y
Analysis of Gains on the Oral Language Scale

Subtest	Pretest Mean	Posttest Mean	Pretest SD	Posttest SD	t Ratio
1. Quality of Ideas	1.72	2.17	0.98	1.05	1.99
2. Ability to Define Words	2.45	3.65	0.89	0.88	6.01**
3. Willingness to Communicate	2.69	3.76	0.91	0.57	7.65**
4. Sentence Structure	2.24	3.48	0.82	0.72	5.95**
Totals	9.10	13.10	3.24	2.15	6.88**

The significance test was a "t" test for correlated data performed on the pretest and posttest scores of all subjects (n=30).
*$p < .05$, 2.05 **$p < .01$, 2.76

Table 5

School Z
Analysis of Gains on the Oral Language Scale

Subtest	Pretest Mean	Posttest Mean	Pretest SD	Posttest SD	t Ratio
1. Quality of Ideas	1.67	2.17	0.94	1.07	1.57
2. Ability to Define Words	2.46	3.75	0.86	0.92	5.64**
3. Willingness to Communicate	3.33	3.96	0.69	0.45	3.98**
4. Sentence Structure	3.00	3.87	0.76	0.88	4.76**
Totals	10.46	13.75	2.50	2.13	5.60**

The significance test was a "t" test for correlated data performed on the pretest and posttest scores of all subjects (n=24).

*$p < .05$, 2.07 **$p < .01$, 2.82

Table 6

Between - School Analysis of the Oral Language Scale

Analysis of Variance for Pretest

Variation	D/F	Sum of Squares	Mean Square	F-Ratio
Between	2	49.72	24.87	2.91 N.S.
Within	54	461.79	8.55	
Total	56	511.51	9.13	

Analysis of Variance for Posttest

Variation	D/F	Sum of Squares	Mean Square	F-Ratio
Between	2	11.82	5.91	1.06 N.S.
Within	54	301.05	5.57	
Total	56	312.88	5.59	

Analysis of Covariance

Variation	D/F	Sum of Squares	Mean Square	F-Ratio
Between	2	3.85	1.92	0.36 N.S.
Within	53	283.51	5.35	
Total	55	287.36	5.22	

For all analyses number of treatments = 3 and number of subjects in each treatment = 19. The pretest was used as the covariate.
$^*p < .05$, 3.18 $^{**}p < .01$, 5.06

APPENDIX A (CONTINUED)

Table 7

School X
Analysis of Gains on the
SMSG Math Inventory

Subtest	Pretest Mean	Posttest Mean	Pretest SD	Posttest SD	t Ratio
1. Object Recognition	4.00	4.00	0.00	0.00	0.00
2. Photo Recognition	4.00	4.00	0.00	0.00	0.00
3. Vocabulary	3.37	3.81	0.73	0.39	3.31**
4. Object Memory	3.18	4.00	0.82	0.00	5.08**
5. Photo Memory	2.74	3.48	0.84	0.92	3.51**
6. Matching Colors	4.00	4.00	0.00	0.00	0.00
7. Naming Colors	3.74	4.00	0.93	0.00	1.43
8. Identifying Colors	3.78	4.00	0.78	0.00	1.44
9. Matching Shapes	4.00	4.00	0.00	0.00	0.00
10. Naming Shapes	3.33	3.70	1.02	0.60	2.29*
11. Identifying Shapes	3.81	3.85	0.55	0.52	0.33
12. Equivalent Sets	3.81	3.70	0.77	1.05	-0.46
13. Counting Buttons	3.81	4.00	0.77	0.00	1.22
14. Counting Sets	3.85	4.00	0.59	0.00	1.28
15. Rote Cardinal Numbers	2.70	4.00	1.15	0.00	5.75**
16. Rote Counting by Tens	1.78	3.89	1.81	0.41	6.15**
17. Recognition of Number Symbols	2.78	3.67	1.10	0.82	4.74**
18. Identification of Number Symbols	3.15	3.78	1.08	0.63	3.53**
19. Marking Number Symbols	1.89	3.44	0.99	1.16	7.70** 4.16**
20. Naming Place Value	0.30	1.63	0.89	1.81	4.16**
21. Forming Place Value	0.30	1.52	0.89	1.79	3.80**
22. Ordinal Numbers	3.18	3.55	1.02	0.83	1.84
23. Triangles	3.70	4.00	1.05	0.00	1.44
24. Circles	3.96	4.00	0.19	0.00	1.00
25. Ordering and Classifying	0.52	2.37	1.29	1.96	3.99**
26. Totals	76.44	90.55	10.48	8.30	10.68**

The significance test was a "t" test for correlated (n=27) data performed on the pretest and posttest scores of all subjects.
*p $\leq$ .05, 2.06 **p $\leq$ .01, 2.79

APPENDIX A (CONTINUED)

Table 8

School Y
Analysis of Gains on the
SMSG Math Inventory

Subtest	Pretest Mean	Posttest Mean	Pretest SD	Posttest SD	t Ratio
1. Object Recognition	4.00	4.00	0.00	0.00	0.00
2. Photo Recognition	4.00	4.00	0.00	0.00	0.00
3. Vocabulary	3.17	3.79	0.70	0.48	4.08**
4. Object Memory	3.34	4.00	0.92	0.00	3.77**
5. Photo Memory	2.41	3.07	1.47	0.91	2.74*
6. Matching Colors	3.86	4.00	0.73	0.00	1.00
7. Naming Colors	3.55	4.00	0.97	0.00	2.45*
8. Identifying Colors	3.62	4.00	0.96	0.00	2.09*
9. Matching Shapes	3.96	4.00	0.18	0.00	1.00
10. Naming Shapes	2.55	3.07	0.67	0.58	3.20**
11. Identifying Shapes	3.00	3.55	0.74	0.72	2.91**
12. Equivalent Sets	3.17	3.76	1.29	0.82	2.43*
13. Counting Buttons	3.41	4.00	1.10	0.00	2.82**
14. Counting Sets	3.34	3.93	1.29	0.36	2.67*
15. Rote Cardinal Numbers	1.62	3.93	0.96	0.36	10.38**
16. Rote Counting By Tens	0.79	2.07	1.56	2.00	3.68**
17. Recognition of Number Symbols	1.79	3.14	1.18	0.82	6.52**
18. Identification of Number Symbols	2.14	3.45	1.41	0.81	5.38**
19. Marking Number Symbols	1.17	2.69	1.08	1.21	7.08**
20. Naming Place Value	0.17	1.17	0.75	1.70	3.36**
21. Forming Place Value	0.27	0.90	0.90	1.56	2.13*
22. Ordinal Numbers	1.90	2.24	1.32	1.19	1.67
23. Triangles	3.76	3.69	0.82	1.02	-0.27
24. Circles	3.86	3.83	0.43	0.75	-0.25
25. Ordering and Classifying	0.14	1.10	0.73	1.79	2.54*
26. Totals	64.86	81.03	12.23	10.30	10.05**

The significance test was a "t" test for correlated (n=30) data performed on the pretest and posttest scores of all subjects.
$*p < .05$, 2.05 $**p < .01$, 2.76

APPENDIX A (CONTINUED)

Table 9

School Z
Analysis of Gains on the SMSG Math Inventory

Subtest	Pretest Mean	Posttest Mean	Pretest SD	Posttest SD	t Ratio
1. Object Recognition	4.00	4.00	0.00	0.00	0.00
2. Photo Recognition	4.00	4.00	0.00	0.00	0.00
3. Vocabulary	2.75	3.67	0.66	0.55	7.69**
4. Object Memory	3.33	4.00	0.74	0.00	4.29**
5. Photo Memory	2.29	2.83	0.98	1.07	2.25*
6. Matching Colors	4.00	4.00	0.00	0.00	0.00
7. Naming Colors	3.67	4.00	0.80	0.00	2.00
8. Identifying Colors	3.75	4.00	0.66	0.00	1.81
9. Matching Shapes	4.00	4.00	0.00	0.00	0.00
10. Naming Shapes	3.04	3.21	0.79	0.70	1.07
11. Identifying Shapes	3.58	3.83	0.76	0.37	1.66
12. Equivalent Sets	2.87	3.67	1.20	1.10	2.63*
13. Counting Buttons	3.92	4.00	0.40	0.00	1.00
14. Counting Sets	3.87	4.00	0.44	0.00	1.36
15. Rote Cardinal Numbers	1.79	4.00	0.76	0.00	13.89**
16. Rote Counting by Tens	2.29	2.71	1.67	1.84	1.11
17. Recognition of Number Symbols	2.54	2.62	1.29	1.07	0.29
18. Identification of Number Symbols	2.87	3.12	1.33	1.23	1.06
19. Marking Number Symbols	1.17	1.87	0.90	1.20	3.09**
20. Naming Place Value	0.12	0.46	0.44	1.15	1.62
21. Forming Place Value	0.29	0.42	0.84	1.15	0.77
22. Ordinal Numbers	2.67	2.83	1.31	1.14	0.55
23. Triangles	3.83	4.00	0.80	0.00	1.00
24. Circles	4.00	4.00	0.00	0.00	0.00
25. Ordering and Classifying	0.46	1.17	1.22	1.82	2.29*
26. Totals	71.62	80.67	8.29	8.25	7.46**

The significance test was a "t" test for correlated (n=24) data performed on the pretest and posttest scores of all subjects.
*p $<$ .05, 2.07 **p $<$ .05, 2.82

Table 10

Between - School Analysis of the SMSG Math Inventory Pretest

Analysis of Variance

Variation	D/F	Sum of Squares	Mean Square	F-Ratio
Between	2	1862.31	931.15	10.44**
Within	54	4817.90	89.22	
Total	56	6680.21	119.29	

$*p < .05$, 3.52 $**p < .01$, 5.93

Tukey A Analysis of Differences Between Group Means

School Mean	X 64.86	Z 71.63	Y 76.44
X - 64.86		6.77*	11.58**
Z - 71.63			4.81
Y - 76.44			

$*p < .05$, 6.18 $**p < .01$, 8.21

Table 11

Between - School Analysis of the SMSG Math Inventory Posttest

Analysis of Variance

Variation	D/F	Sum of Squares	Mean Square	F-Ratio
Between	2	1439.46	719.73	9.60**
Within	54	4048.01	74.96	
Total	56	5487.47	97.99	

$^*p < .05$, 3.52 $^{**}p < .01$, 5.93

Tukey A Analysis of Differences Between Group Means

	Z	X	Y
School Means	80.67	81.03	90.56
Z - 80.67		.36	9.89**
X - 81.03			9.53**
Y - 90.56			

$^*p < .05$, 5.66 $^{**}p < .01$, 7.89

Table 12

Between - School Analysis of Covariance of the SMSG Math Inventory

Analysis of Covariance

Variation	D/F	Sum of Squares	Mean Square	F-Ratio
Between	2	422.52	211.26	5.20**
Within	53	2154.07	40.64	
Total	55	2576.60	46.85	

*$p < .05$, 3.18 **$p < .01$, 5.06

F-Test Analysis of Differences Between Adjusted Group Means

Adjusted Means	Z 80.14	Y 86.00	X 86.13
Z - 80.14		5.86**	5.99**
Y - 86.00			0.13
X - 86.13			

*$p < .05$, 4.17 **$p < .01$, 5.54

APPENDIX A (CONTINUED)

Table 13

School X
Analysis of Gains on the
Metropolitan Readiness Test

Subtest	Pretest Mean	Posttest Mean	Pretest SD	Posttest SD	t Ratio
1. Word Meaning	6.95	8.73	3.42	2.42	2.54*
2. Listening	9.77	11.18	2.61	3.14	2.07
3. Matching	5.18	10.09	3.39	2.81	8.05**
4. Alphabet	7.36	13.86	4.06	3.15	9.43**
5. Numbers	9.59	14.45	4.41	3.61	6.55**
6. Copying	4.95	9.50	3.36	2.90	7.02**
TOTAL	43.41	67.82	15.90	14.12	12.50**

The significance test was a "t" test for correlated data performed on the pretest and posttest scores of all subjects (n=27)
*$p < .05$, 2.09 **$p < .01$, 2.84

Table 14

School Y
Analysis of Gains on the
Metropolitan Readiness Test

Subtest	Pretest Mean	Posttest Mean	Pretest SD	Posttest SD	t Ratio
1. Word Meaning	4.38	7.03	2.14	2.85	7.13**
2. Listening	8.21	9.48	2.25	2.63	2.58*
3. Matching	5.34	7.79	3.54	3.58	3.43**
4. Alphabet	5.03	10.48	3.53	5.16	5.60**
5. Numbers	8.17	10.59	3.79	3.95	3.96**
6. Copying	3.72	7.55	3.85	3.54	6.61**
TOTAL	34.96	52.96	15.91	17.11	8.24**

The significance test was a "t" test for correlated data performed on the pretest and posttest scores of all subjects (n=30) $*p < .05$, 2.05 $**p < .01$, 2.77

Table 15

School Z
Analysis of Gains on the Metropolitan Readiness Test

	Subtest	Pretest Mean	Posttest Mean	Pretest SD	Posttest SD	t Ratio
1.	Word Meaning	6.58	8.47	2.60	2.56	2.43*
2.	Listening	9.21	10.26	1.91	3.13	1.17
3.	Matching	5.95	9.47	2.76	3.33	3.93**
4.	Alphabet	4.05	9.37	2.01	4.32	5.83**
5.	Numbers	9.26	12.00	4.48	4.36	2.32*
6.	Copying	5.16	8.84	3.59	4.16	4.66**
	TOTAL	40.21	58.42	11.53	18.24	4.23**

The significance test was a "t" test for correlated data performed on the pretest and posttest scores of all subjects (n=24)
$*p < .05$, 2.11 $**p < .01$, 2.90

APPENDIX A (CONTINUED)

Table 16

Between - School Analysis of the Metropolitan Readiness Test

Analysis of Variance for Pretest

Variation	D/F	Sum of Squares	Mean Square	F-Ratio
Between	2	871.68	435.84	1.94 N.S.
Within	54	12115.79	224.37	
Total	56	12987.47	231.92	

Analysis of Variance for Posttest

Variation	D/F	Sum of Squares	Mean Square	F-Ratio
Between	2	2814.42	1407.21	4.81*
Within	54	15799.79	292.59	
Total	56	18614.21	332.40	

Analysis of Covariance

Variation	D/F	Sum of Squares	Mean Square	F-Ratio
Between	2	920.77	460.39	2.67 N.S.
Within	53	9130.47	172.27	
Total	55	10051.24	182.75	

*$p < .05$, 3.18 **$p < .01$, 5.06

Table 17

Analysis of Gains on the MRT
Draw-a-Man Subtest[1]

School	n	Pretest Mean	Posttest Mean	Pretest SD	Posttest SD	t Ratio
X	27	2.09	3.27	1.04	1.21	3.86**
Y	30	2.21	3.55	1.30	1.22	4.77**
Z	24	1.84	2.79	0.81	0.95	3.38**

Table 18

School Z
Analysis of Gains on the
California Test of Mental Maturity[1]

	n	Mean	SD	t-ratio
Pretest	19	88.59	14.66	
Posttest	19	96.00	17.08	3.28**

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[1] The significance test used was a "t" test for correlated data performed on the pretest and posttest scores of all subjects

*$p < .05$, 2.05 **$p < .01$, 2.76

Table 19

Means and Standard Deviations for the Metropolitan Achievement Test

Subtest	School X Mean	SD	School Y Mean	SD	School Z Mean	SD
1. Word Knowledge	1.58	0.33	1.81	0.17	1.88	0.42
2. Word Discrimination	1.66	0.55	1.84	0.27	2.05	0.55
3. Reading	1.65	0.26	1.81	0.16	1.64	0.43
4. Arithmetic Skills	1.93	0.56	1.54	0.38	1.55	0.39

APPENDIX B

NAME________________________________ RATING________________________

OBSERVATIONAL CHECK LIST

*A - Always
F - Frequently
S - Seldom
N - Never
(Check one of the letters when appropriate.
Otherwise write Yes or No or list or check as directed.)

I. SOCIAL BEHAVIOR

	*A.	F.	S.	N.
Does he comply with group rules?				
Is he content with no more than his share of attention?				
Is he willing to share materials and equipment?				
Does he help others when he sees a need?				
Does he accept help from others?				
Is he able to settle disputes in a friendly way on a verbal level? If not, does he mainly resort to (check)				
name calling				
hitting				
crying				
sulking				
Is he able to enjoy true cooperative play and work with others? If not, is he still at the level of solo or parallel play? (Underline)				

II. SELF-SELECTION AND SELF-DIRECTION

	*A.	F.	S.	N.
Does he make selections of his own?				
What are his most frequent choices? (list)				
Does he stay with his choice?				
Does he seem to have a definite purpose as he works?				
Does he relate his work to the on-going topical unit?				
Does he always make the same choice?				
Is he widening his interests and choosing many kinds of materials and activities?				
Is he using materials in more creative ways?				
Does he use his time constructively? If he finishes one task, does he choose another activity?				
Is he learning to control his behavior and abide by group rules even when teacher is not imposing controls?				
Is he enthusiastic about the activities of the school?				
Does he actively participate in all activities? If not, list those in which he is interested.				

III. INTEREST IN PRINT AND READING

	*A.	F.	S.	N.
A. Book Behavior				
Does he often choose to go to the book corner?				
Does he handle books carefully and correctly?				
Does he enjoy "reading" books that have been read by the teacher?				
Is he interested in hearing stories and re-telling them?				
B. Language Chart Activities				
Is he interested in the charts?				
Does he contribute to the story?				
Is he attentive during the building of the chart?				
Does he memory-read total stories?				
Can he find and read particular sentences?				
Can he find and read particular words?				
Does he recognize these words in other context?				
Does he re-read the stories with others or alone in free time?				
Has he acquired left-to-right orientation?				
Has he acquired top-to-bottom orientation?				

C. Other Pre-Reading Activities	*A.	F.	S.	N.
Is he interested in finding out what it says - on labeled pictures and other printed materials in room?				
Can he hear and produce rhyming words?				
Can he hear and produce words with like initial sounds?				
Can he interpret pictures in story form?				
Is he aware of differences in shapes? letters? words?				

SUBJECT: Directions for Extension of Check List for Stages IV and V

TO: Teachers in Project Schools

FROM: Beatrice L. McInerney

In order to have as much information as possible for grouping for next year we need an extension of the Check List which you are going to fill out again for each child.

The Check List should be sufficient for all children (either K or 1) who have not progressed beyond the Chart-Reading Stage.

For those who have progressed beyond that stage you may simply omit all the items under III Interest in Print and Reading. We will assume that those children have acquired all the behaviors listed under III A, B, and C or they would not have received instruction on the skills and materials in the next stage.

In other words the Check List will be ample for all children still in Group Adjustment, Pre-Reading, or Chart-Reading Stage.

For those who have progressed to Beginning Reading Stage or Initial Independent Reading Stage you will need a sequence of more complex and advanced behaviors. We should work this out together but time is just too short. Therefore, I have hastily listed 14 behaviors (Reading, Written and Oral Language Behaviors) which we will use at this time. These are not all the behaviors nor perhaps the most important behaviors we have tried to help children achieve, but they will be sufficient for our use at this time and could be used as a report to the parents if you desire. They will help the parent understand (if you go through them in a conference) precisely what a child can do and will eliminate the need to use any comparative terms such as Very Good, Poor, etc., or grades such as A, B, etc.

Note that Items 1, 2, 10, and 11 have several parts to take care of more and less complex, difficult, and lengthy thought units with which the child can exhibit the particular behavior. You will fill in only to the level at which the child can operate. You may wish to modify some of the other items on which the child doesn't exhibit complete mastery by indicating what he can do. For example, Item 8 (Handwriting): You might want to add "Reverses b and d, g and p; does not space between words," or any other specific lacks in achieving the behavior indicated.

For the sight vocabulary check in Item 1 you may use either Botel's Graded Word Recognition Tests or a similar number of randomly selected words from the Basals you have been using. For the Reading Check in Item 2, use graded readers that you have not used as instructional materials. The Bill Martin Readers will not serve this purpose as there is no attempt to control vocabulary in them.

APPENDIX B (CONTINUED)

Extension of Check List for Stages IV and V

1. He identifies instantaneously and accurately ____% of a sampling of ____ pre-primer words.
   ____% of a sampling of _50_ primer words.
   ____% of a sampling of ____ First Reader words.

2. He reads orally fluently and with natural intonation patterns story material containing mainly pre-primer vocabulary; primer vocabulary; 1st reader vocabulary.

3. He makes fewer than five errors per 100 running words when reading orally. Pre-Primers, Primers, First Readers. (Underline the highest level at which he can do this.)

4. He can answer correctly factual questions on what he has read. (Write the number correct out of the number asked; for example, 4 out of 5 correct.)

5. He can read silently in pre-primer material and find the answer to a specific question and paraphrase the answer, changing pronouns if necessary; for example, "I have 6 pennies," said Tom. Child paraphrases to "Tom (or he) has 6 pennies."

6. He can draw conclusions and make inferences about what he has read.

7. When he comes to an unknown word he aggressively and flexibly tries to decipher it by using beginning sounds, rhyming parts, context, picture clues or a combination of these methods. He is successful at least 50% of the time. (If he does not use all clues, underline the ones he does use.)

8. He forms all letters correctly and writes legibly. (If he has deficiencies here, list them.)

9. He can spell correctly approximately 50% of the common words he uses in his story writing.

10. He can start 90% of the words he writes by writing the initial consonant; the initial blend; the initial and final sounds. (Underline the highest level here.)

APPENDIX B (CONTINUED)

11. He writes one or two sentences about his experiences using correct punctuation and capitalization; three or four sentences. (Underline the highest level here. Note if he does not punctuate and capitalize.)

12. He sometimes uses compound subjects or predicates and dependent clauses.

APPENDIX C

ANALYSIS OF ORAL LANGUAGE

CLASSIFICATION OF ORAL LANGUAGE SKILLS TO BE ANALYZED

1. How a child thinks, as revealed by the quality of his idea.
2. How a child thinks, as revealed by the nature of his definitions of words.
3. How a child uses words, as revealed by his ability to verbalize ideas.
4. How a child uses words, as revealed by his command of sentence structure.

DIRECTIONS FOR ADMINISTRATION

A picture is selected to satisfy these criteria: (1) There should be two or more easily recognized characters in the picture, such as a boy, girl, baby, mother, father, or pets. (2) There should be a central activity or "story," such as playing a game, having a picnic, making cookies, or getting ready for bed. (3) Each character should be doing something different. (4) The setting or background should be appropriate enough to indicate where the action is taking place but should not contain so many items as to distract from the main theme.

The picture is to be presented privately to each child, who is encouraged by the teacher to "tell all about it." The teacher then records verbatim, possibly on tape, everything the child says, occasionally encouraging him with such non-directing phrases as "That's fine. Tell me some more." The child's entire verbal output is subsequently analyzed in relation to idea quality, ability to verbalize ideas, sentence structure, and use of voice and articulatory mechanism. The child's ability to define words is explored by means of a vocabulary "test," presented orally by such questions as "Tell me what a ball is," or, if the child is unable to reply, "Find one in the picture." All responses are to be recorded verbatim and analyzed.

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[1] Monroe, Marion and Rogers, Bernice. Foundations of Reading Informal Pre-Reading Procedures. Chicago: Scott, Foresman and Company, 1964.

SCALE FOR QUALITY OF IDEAS

1. Ideas fully concrete. Concerned with the immediate environment. Objects and events seen as separate items. Not concerned with relationships.

   Example (response to a picture showing a dog jumping up to snatch an ice-cream cone from a baby's hand):

   "It's about a baby and a dog and an ice-cream cone."

2. Sees some objects and events in relation to each other. Relationships seen are concerned with the concrete and the here and now. Characters are related to their actions.

   Examples (Picture as described above):
   "The baby's crying."
   "The dog's jumping up."
   "The baby's eating."

3. Sees relationships between objects and events, including relationships of size, shape, color, use, distance, and cause and effect. Begins to include in his ideas some people, things, or events farther away in time or space. Recognizes simple emotional reactions and motives of characters. Forms sensory images (visual, auditory, thermal, tactile, kinesthetic).

   Examples (picture as described above):

   "It's a hot day."
   "The baby wants the dog to go away."
   "Somebody gave the baby an ice cone."
   "The baby's scared."

4. Sees relationships of various kinds as Level 3 but tends to include the more abstract qualities as well as the concrete and immediate. Anticipates events, deduces more complex cause-and-effect relationships and time relationships. Recognizes simple character traits.

   Examples (picture as described above):

   "The dog wants to get the baby's cone. I think he's going to get it, too. He's a bad dog."

5. Ideas as at Level 4 but with the addition of some evaluation and judgment. Generalizes within the limits of his experience. Makes judgments which include the consideration of abstract concepts.

   Examples (picture as described above):

   "People shouldn't give babies cones when dogs are around."
   "Pets are sometimes a nuisance."
   "Dogs don't know any better."

SCALE FOR DEFINITION OF WORDS

1. Cannot verbalize any definition. (May be able to respond to the word by pointing to the object or to a picture of the object.)

2. Repeats the name of the object or uses the name of the object in a sentence.

   Examples: "A ball is a ball."
   "I got a ball."
   "A window is...well, it's a window."

3. Defines by stating the use of the object (or shows its use with pantomime).

   Examples: "A ball is to play with."
   "A window is to see out of."

4. Defines by describing.

   Examples: "A ball is round and big and made out of rubber."
   "A window is clear-like and has window-panes."

5. Defines by classifying or by classifying plus describing. May recognize variant meanings.

   Examples: "A ball is a kind of toy, and there's a ball where you dance."
   "A window is something glass over a hole in the wall."

SCALE FOR ABILITY TO VERBALIZE IDEAS

1. No ideas clearly expressed. Talks very little or far too much. Confuses the listener through inappropriate use of words or inability to put words together to show their relationships. Frequently disorganized or even incoherent. May shrug shoulders, point to an object, or grimace without verbalizing.

2. Verbal expression of ideas severely limited, but better than at Level 1. Words may sometimes not be clearly related to one another, or they may be inappropriate or incomprehensible, or may be too few to express an idea adequately.

3. Moderately clear in verbal expression. May sometimes become either blocked or overproductive, and may sometimes use words inappropriately, but manages to express some of his ideas adequately. May digress from his subject.

4. Uses words adequately for clear expression of his ideas. Appears to be able to say what he wants to say, and does not usually talk too much. Stays on the subject; usually avoids irrelevancies.

5. Same as Level 4 but in addition to the ability to express his own ideas shows a desire and an ability to include others in a conversational manner in what he has to say. May, for example, try to exchange ideas with the teacher or with another pupil.

SCALE FOR MASTERY OF SENTENCE STRUCTURE

1. Has not mastered English syntax well enough to be understood. (In most cases the result of a non-English home background.)

2. May alter English word order somewhat in the directions of the syntax of another language, or in the direction of a regional or class pattern of English, but uses sufficiently idiomatic English to be understood.

   Examples: "That man I seen him."
   "That man I saw him."

   (The form of the verb may be acceptable or unacceptable. This is not a question of structure, although the usage and structure variations frequently occur together.)

3. Approaches somewhat nearer to standard English sentence structure. Uses large numbers of subject-verb or subject-verb-object sentences strung together with _and_. Frequently doesn't seem able to terminate the _and_..._and_...and sentence. Uses _because_ in an incomplete sentence in answer to a question.

   Example: "Why did you draw a blue horse?"
   "Because I like blue."

   Probably will not use a complete complex sentence with a _because_ clause.

   Shows relationships by running two ideas together rather than by formulating a complex sentence with an appropriate conjunction.

   Example: "I read a book my mother gave it to me."
   "I got home my mother was gone."

4. Manages more frequently to make a stop between sentences. Uses a larger proportion of complete sentences.

5. Approaches standard English syntax. Uses standard word order and a greater variety of acceptable word order. Connects related ideas by using appropriate connectors or implied connectors.

   Examples: "When I got home, my mother was gone."
   "I read a book my mother gave me."

APPENDIX D

DIAGNOSTIC INSTRUMENTS--RATINGS AND RELATION OF RATINGS TO INSTRUCTIONAL STAGES

Suggestions for determining numerical ratings on evaluation instruments, relating the ratings to the other instruments, and relating the ratings to the five stages of growth.

It is important to note at the outset that although all ratings are on a 5-point scale from low to high, we cannot equate the five points on a one-to-one basis with the five stages we have designated as bases for instructional groups. Children who are well prepared as indicated by ratings of 4 or 5 on all instruments, are probably ready for the kinds of skills to be taught at Stage 3--Chart Reading.

The following graph gives a very broad estimate of the Instructional Stages that various ratings indicate readiness for.

METROPOLITAN READINESS	E	D	C	B	A
CHECK LIST	1	2	3	4	5
LANGUAGE SCALE	1	2	3	4	5
	Group Adj.		Pre Reading	Chart Reading	

CHECK LIST--General guide for numerical ratings.

Ratings

1. Checks mainly in N Column
   Unable to check most items under III Interest in Print and Reading because child has not developed sufficient interest to engage in the behaviors to be observed.

2. Checks in I Social Behavior, II Self-Selection and Direction mainly in S and N columns. Still unable to check most items in III.

3. Checks in I and II and IIIA mainly in F Columns.

4. Checks in I and II mainly in F and A columns.
   Checks in IIIA and B mainly in F columns.

5. Checks on entire list mainly in F and A columns.

APPENDIX D (CONTINUED)

Metropolitan Readiness
Monroe Language Scale

The means of arriving at letter or numerical ratings on these instruments are given in the manuals for each.

APPENDIX E

CURRICULUM

ORAL LANGUAGE
(as developed by Project Teachers)

Group Adjustment Stage

OBJECTIVES	ASSESSMENTS	ACTIVITIES TO PROMOTE ACHIEVEMENT OR OBJECTIVES
1. He responds spontaneously with one or two remarks to questions about his experiences of a picture.	Observation Monroe Lang. Scales	Items 1-5 which are the objectives of an oral language program for the Group Adjustment Stage can be achieved through the following general activities: A teacher can provide opportunities for natural growth in language ability through free conversation, group discussion, telephone conversation, group stories, telling experiences and through dramatization of stories. 1. Plan a sequence of visits. Develop new concepts and vocabulary during the trip and in subsequent discussions. Each visit or experience should be easier for the child to talk about as he becomes familiar with more areas. 2. Use of simple pictures with one general theme then adding pictures with more details as the vocabulary improves. 3. Many types of first hand exper iences in the classroom to promote conversation. 4. Making drawings illustrating a story or experience then use to tell a story. 5. Dictating a story to an adult and then illustrating.

ORAL LANGUAGE

Group Adjustment Stage OBJECTIVES	ASSESSMENTS	ACTIVITIES TO PROMOTE ACHIEVEMENT OF OBJECTIVES
2. He interprets pictures with one or two characters performing some central activity in terms of "who is doing what."	Monroe Lang.Scales	1. Through acting out parts. 2. Picture puzzles. 3. Allow slower child to name every item he sees. Through questions and pointing out important details the child may learn to do the same. 4. Use of many stories, songs, rhymes, and poems read to child and then retold by child helps develop central theme.
3. He uses simple sentences with one subject and verb.	Observation	1. Making books by children. Each page has child's picture and a short sentence under it. 2. Making up simple story or rhyme with few sentences. 3. Planning a bulletin board with children using their work and words. 4. Sharing items brought from home and have children do the questioning about these items brought. 5. Many stories, poems, records to be heard by children and then expressed in children's own language by children.

ORAL LANGUAGE

Group Adjustment Stage

OBJECTIVES	ASSESSMENTS	ACTIVITIES TO PROMOTE ACHIEVEMENT OF OBJECTIVES
4. He defines words by stating the use of the object.	Monroe Lang. Scales	1. Provide many types of objects and have child show what to do with items, gradually add labels.
		2. Games where child using unfamiliar objects and then find uses for them. Many items placed in room for individual experimentation.
5. He has both labels and concepts for common items in school and home.	S.M.S.G. Subtest 1A	1. Games where children act out nouns (animals) verbs (dance) adverbs (quietly) prepositions (under).
		2. Children list words they know of one type - toys, animals - hunt for pictures to tell about or draw and tell about.
		3. Make charts of various categories - vegetables, fruits, tools, etc.
6. He recognizes pictorial representation of concrete objects for which he has labels.	S.M.S.G. Subtest 1B	1. Begin with concrete objects, replace with pictures.
		2. Simple picture books, gradually make difficult.
		3. Use of manipulative objects to construct or crayons to represent the concrete object.
		4. Make use of pictures and slides
		5. Films and overhead projector.

ORAL LANGUAGE

Group Adjustment Stage OBJECTIVES	ASSESSMENTS	ACTIVITIES TO PROMOTE ACHIEVEMENT OF OBJECTIVES
7. He volunteers to contribute in discussion periods.	Observation	1. Select topics or areas for discussion periods that the child knows something about and also that he is interested in. These topics and areas for discussion would be selected according to child's experience background.
		2. Create a background of new experiences by trips, stories, manual activities or manipulative devices.
		3. Have small groups for discussion so that child has opportunity to contribute more frequently.
		4. Engage the child in conversation during selection period on his particular activity.
		5. Encourage him to respond by bringing him into the conversation, if he doesn't volunteer.
		6. Do not ignore his conversation or contribution to the group at any time.
8. He converses with other children and adults in self-selection periods.	Observation	1. Engage him during selection period about his activity which he has chosen.
		2. Have him team up with one or more children in the participation of some activity necessitating conversation towards completion.

ORAL LANGUAGE

Group Adjustment Stage OBJECTIVES	ASSESSMENTS	ACTIVITIES TO PROMOTE ACHIEVEMENT OF OBJECTIVES
9. He answers questions in terms of the questions.	Observation	1. Use simple questions with simple, direct answers to start. 2. Simple games of question and answer type may be used. 3. Ask direct questions so as to narrow down possibility of answers becoming meaningless. 4. Encourage the child to think out his answer before he speaks out.
10. He sticks to the point in planned small group discussion.	Observation	1. Choose subject of discussion very definite and specific so as not to get opportunity to wander from the point. 2. Plan discussion to progress in orderly fashion of development by specific developmental questions.
11. He remembers the words in simple songs and singing games.	Observation	1. Use songs, singing games that have a repetition of words, melody, etc. 2. Use short simple songs. 3. Use short simple poems.

ORAL LANGUAGE

Group Adjustment Stage OBJECTIVES	ASSESSMENTS	ACTIVITIES TO PROMOTE ACHIEVEMENT OF OBJECTIVES
12. He assumes roles in dramatic play.	Observation	1. Dramatize stories told and read to the children. This dramatization could be just one part or scene of the story.
		2. Simple charades done by small groups.
		3. Dramatize short scenes with few children, at first, build up to participation of more children.
		4. Dramatize stories that afford all degrees of dramatic play from pantomime to more action-from non-speaking to simple speaking, to more speaking opportunities.
13. He volunteers to assume roles in planned dramatization and uses simple dialogue.	Observation	1. Use stories or nursery rhymes. Read entire story to the class. On the second reading, children say the phrases that are repeated often in the story such as "The big wolf said, I'll huff and I'll puff!" etc. At a later time, assign parts to small groups and finally to individuals.
14. He tells what is happening in his pictures.	Observation	1. First use painted pictures and ask many questions: "What time of day is it?" "What is the boy wearing?" "What season of the year is it?" - etc. Discuss a certain subject in story, then have each child draw a picture about the story. Type each child's story, as he dictates it, on the bottom of the picture. Collect pictures and put into booklet form.

ORAL LANGUAGE

Pre-Reading Stage OBJECTIVES	ASSESSMENTS	ACTIVITIES TO PROMOTE ACHIEVEMENT OF OBJECTIVES
1. He responds spontaneously to questions about his experiences or a picture and continues when requested.	Observation	1. Background of picture of story presented by the teacher. Teacher continues to build story with much excitement then ask child to continue the story.
2. He interprets picture with a central activity in terms of "who is doing what" and makes inferences about the feeling of relationships shown in the picture.	Observation	1. Use pictures and stories. Show pictures of simple objects and move towards pictures with more activity in them. Ask many questions. "What is the boy doing?" "What do you think he is saying?" If you were in this picture, what would you do, or what would you say?"
3. He uses simple sentences with compound subjects, predicates or objects.	Observation	1. At the early stage, the child often responds with one word answers. Working with small groups, use of toy telephones and puppets has been helpful in developing sentences. When enough sight vocabulary has been learned, putting simple sentences on the board and having the child read it will help develop this objective-explaining this is a sentence-it tells something or asks something. When enough writing ability has been achieved, the child can write his own sentences and read them to the group.

APPENDIX E (CONTINUED)

ORAL LANGUAGE

Pre-Reading Stage OBJECTIVES	ASSESSMENTS	ACTIVITIES TO PROMOTE ACHIEVEMENT OF OBJECTIVES
4. He defines words by describing.	Observation	1. Use of pictures or objects in the room. At first teacher may ask questions-as the language skill develops the child is given an opportunity to tell all he can about a given object. Make up riddles about the object. Later, the child can make up the riddles and ask the class.
5. He has labels and concepts for common objects in school, home and immediate neighborhood.	Observation	1. See Number 5 of Group Adjustment.
		2. Use Ben G puzzles and others which identify objects.
		3. Controlled Reader has a series of filmstrips on recognition of objects.
		4. Identification of groups.
6. He takes an active part in discussion periods.		1. Provide times when every member of the group is expected to contribute to conversation.
		2. Encourage the shy child by quickly and readily accepting his contribution.
7. He can carry on a two-way conversation with adults and other children.	Observation	1. Have puppets available for children to use during free play.
		2. Encourage children to share their joys and concerns with teachers and others.
		3. Use telephones

ORAL LANGUAGE

Pre-Reading Stage OBJECTIVES	ASSESSMENTS	ACTIVITIES TO PROMOTE ACHIEVEMENT OF OBJECTIVES
8. He asks questions about objects, pictures, and stories and others' experiences.	Observation	1. Have a surprise box with a small peek hole. Change the contents periodically.
		2. Teacher being receptive to questions.
		3. Playschool match-up puzzles.
		4. Have objects, pictures in the room that stimulate curiosity.
9. He uses appropriate adjectives in describing the properties of objects.	Observation	1. Have boxes which contain objects that can be compared. For example, How does it feel? How does it sound?
		2. In discussion encourage the use of descriptive words. The big ball The big round ball The big round blue ball
		3. Use a bag in which has been placed several items. Allow children to take turns feeling and describing the contents.
10. He uses comparative, and superlative endings in comparing and contrasting ob-objects.	Observation	1. Have cans, bottles and other objects which can be compared and arranged from smallest to largest, narrowest to widest, etc.

CURRICULUM

READING

Group Adjustment

OBJECTIVES

1. Chooses to go to the book corner frequently in selection period.
2. Can memory read many of the books that have been read and re-read to him.
3. Frequently asks to have teacher or aide read a particular book.
4. Knows that a written symbol accompanying an object or picture stands for the object or picture.
5. Knows that stories have titles or names which tell what the story is about.
6. Knows that reading is talk written down.
7. Asks "What does that say?" about signs and labels.
8. Proceeds from left to right as he memory reads from charts or books.
9. Proceeds from top to bottom as he memory reads from charts or books.
10. Proceeds from front to back as he looks at books.
11. Is aware of the one-to-one correspondence of the words he says with those on the chart or in the book.
12. Can find sentences on a chart because he is aware that sentences begin with a capital letter and end with a period or question mark.
13. Knows the difference between a statement and a question.
14. Can contribute sentences to group chart stories.
15. Can dictate his ideas about his individual pictures, day work or other experiences.
16. Can memory read group or individual chart stories.

READING

Pre-Reading

OBJECTIVES

17. Can identify both capital and small letter forms of letters frequently used in chart stories.

18. Can identify his name whenever he sees it.

19. Can write his name.

20. Can identify some of the common words used in chart stories in any context.

21. Associates common beginning consonant sounds with their letters.

22. Can tell how to begin a particular word because it sounds like "me," etc. at the beginning.

23. Can remember words-forms and therefore can write many of the words in his sight vocabulary.

24. Can read chart stories in a fluent, conversational tone with natural speech intonations.

25. Can remember and recognize a 60-80 word sight vocabulary in any context.

26. Can read books independently at the pre-primer level of difficulty.

27. Frequently chooses to read as an independent activity.

28. Can independently write one or two sentence stories about his pictures or experiences.

29. Can use the context plus the initial sound to attack words independently.

30. Can identify and write all the letters of the alphabet.

APPENDIX F

PARENT EDUCATION COMPONENT - FAMILY LIFE CONSULTANT

As school begins, teachers and preschool staff have many opportunities to speak informally with parents. We can help mothers to understand:

1. The need for her child to begin to be able to live comfortably for short periods of time away from mother in a friendly environment.

2. The need for her child to learn about himself in relation to other children, and that he can do, that he can learn.

3. What is available in this new environment for her child to explore.

4. The simple equipment and materials he will begin to use.

5. The value of play as a child's work.

6. The order of activities, what comes next and what comes before. That activities are planned around the child's age, his attention span, his need for alternating activities of active and quiet play.

7. What to expect in the way of behavior from her child as he grows in social skills.

8. That all children need to learn and grow. That we are careful not to label her child, or any other child, as he will change if we allow him the freedom to grow and develop.

Prepared by Mrs. Barbara Durr
Family Life Consultant
October 4, 1967

SOME FIRST STEPS TOWARD PARENT INVOLVEMENT

COMMUNICATION

Verbal

It is necessary that each school staff member take time to develop rapport with parents through individual contacts such as the initial meeting with the parent, home visits, in the halls at school, on a chance meeting in the neighborhood, and at group meetings.

Written

Written materials can help to keep parents informed through school notices sent home with children, developing some regular bulletin or newsletter which parents can look forward to and rely upon for news and announcements, a calendar for each month with dates of special activities and holidays marked on it, a bulletin board especially for parents at school, and occasional mailing of announcements to each home.

GETTING ACQUAINTED

1. Provide parents with a list of the children and parents in their child's class.

2. A sketched map of the school area is helpful.

3. Provide a list of the names of the school staff and their jobs.

4. Through individual interviews or at group gatherings, make note of parent interests, suggestions for discussion topics, suggestions for children's activities, concerns for their child's needs, and assessments of their child's growth. Acknowledge and use these at school.

5. Provide name tags at meetings to encourage parents and staff to learn each others' names.

PARENT ROOM

1. Provide a space at school for parents.

2. Have coffee available; food when possible.

3. Gather a supply of books and magazines for parents to take home.
4. Be available to parents in the Parents' Room as much as possible.
5. Plan regular Discussion Group times with parents here.

BABYSITTING

1. Plan to provide babysitting for daytime and evening meetings when parent groups are regularly scheduled to meet, and on special occasions.
2. Make use of the possible resource of outside volunteer help to care for preschool children, and/or
3. Help parents to share this responsibility.

PARENT MEETINGS

1. Evening meetings may be the only opportunity for contact with fathers and working mothers. Set dates for these and inform parents on some regular basis.
2. Some schools have evening meetings in conjunction with PTA or Home & School meetings.

OBSERVATION IN THE CLASSROOMS

1. Develop a plan for parent observation with teachers, principal, and coordinator.
2. Plan for small groups of parents to observe at a time.
3. Meet with parents first to prepare them for observation, observe with them for a short period in the classroom, and meet with parents immediately following the classroom observation for discussion and questions.
4. Ask the teacher observed to be present, if possible, for all or part of the discussion period.

PARENT PARTICIPATION IN THE SCHOOL SETTING

1. Help each parent find some way that he or she can feel a part of the school setting.

2. Be alert to those parents who indicate interest or show readiness for helping in the classroom.

3. Help classroom volunteers by acquainting them with rules and procedures, giving them further observation time, and showing them what they can do to help the teachers. Then support them through their experience of helping in the classroom in any way indicated to make their participation successful.

4. Find other ways that parents can help the school.

5. Acknowledge all parent help via newsletter or in other ways.

PARENT TRIPS

1. Begin to get parent suggestions and be alert to interests that might lead to a trip for parents.

2. Be resourceful in planning transportation for trips nearby.

3. Scout the immediate community for meaningful, informative places to visit.

SLIDES, MOVIES, PICTURES

Pictures of children in school are sure-fire at parent meetings. Parents love to see their children (and themselves) in pictures. It is also a very effective way to help parents better understand the school program.

CLASS MOTHERS

One or two mothers can be found to help each teacher. There are innumerable ways they can help, such as:

1. Planning special activities for children.

2. Recruiting mothers to volunteer help at school.

3. Arranging exchange of babysitting so parents can volunteer.

4. Serving refreshments at meetings, etc.

APPENDIX F (CONTINUED)

CLOTHING EXCHANGE

1. Find a place where parents can trade needed item such as boots and coats.
2. Use the resources of the groups in the larger community to give you good used item to add to the "exchange."

DISCUSSION

Parent discussion groups are based on the conviction that where free and open discussion is encouraged, changes in behavior are most apt to occur.

Our goal is to initiate some changes in this group which has been called "deprived." In order to effect change, we need to explore feelings and factors of family life with parents, and try to develop with them other methods of functioning which might help them provide an environment more conducive to the growth and development of the family group.

It takes lots of talking and learning to produce change in practice. Many of our parents are handicapped with feelings of despair, inadequacy, and hopelessness. Their pattern may be one of escape from the reality of their responsibilities. Talking together helps people to begin to understand and accept their own feelings. They can then be more accepting and empathetic to the feelings of others. Another value of free discussion comes from the group support and help derived when mutual experiences and feelings are shared. We want to help people to develop inner strength and an ability to share their strength with one another. We want to foster self sufficiency.

In order to change conviction or belief, an individual must first experience doubt and unrest and go through a period of inquiry. An individual must first question what he is doing before he or she can accept added or new information. It is often a painful procedure. A great deal of support is necessary from the person who leads parents into questioning their methods of child rearing.

* * * * * *

I have gathered a few suggestions to get you started with a parent discussion group:

1. The physical setup

People should be comfortable, seated perhaps in a circle so that group members can see each other easily. Keep distraction to a minimum. Small groups are best. Consider a division of people into small groups if you find yourself with a large group of parents. These groups should be open to friends and neighbors. Introductions or name tags may help initially to get people to know one another. Keep it informal. Serve refreshments. Provide babysitting.

2. Adopt an accepting attitude

This leaves people free to say anything. You may get some startling reports and subject matter in the group. Place your emphasis on understanding and listening rather than on specific answers to problems. There are many ways to look at a situation. Rid yourself of a "one preconceived way" of treating a problem.

Deal lightly with interpretation of behavior. Be non-judgmental. Of course, you don't have to agree with everything either. Just encourage the idea that there are many ways to look at a situation.

Empathize with parents. Remember that children are "an emotionally draining experience" for all parents, especially during the early years.

3. Encourage inquiry

A questioning group is a good one, exercising their right to clarification.

4. Allow comments to flow

Listen, encourage, pass the conversational ball around. Ask "What do you think?" "Don't you think?" implies they don't." If discussion seems to be getting out of bounds, beyond the educational level, step in and change the course of discussion. By making a general comment you can then redirect and control emotional feelings which might be taking over.

5. Keep intellectualizing to a minimum

Such learned comments are deadly in discussion. However, such statements are a handy tool to use to control the course of discussion if emotional feelings get in the way of good interaction.

6. Protect individual group members from revealing too much

Our discussion groups are not meant as therapy, though in a sense they are. Their emphasis is education and clarification, with opportunity for parents to express themselves. This means we deal with things on a conscious level. Don't probe. Be ready to step in to protect an individual's privacy. As a general rule, individual children should not be discussed before the group. Specific problems are often not appropriate. It is better to generalize on these and let it be known that you are available to discuss individual situations privately.

7. Teach by example

Focus on what is happening in the school situation. Comment on how the adult staff works with children. When you observe a classroom situation with a group of parents, you can get into areas of child behavior and development. Discuss what would happen if a situation you saw was handled in this way, or in another way, inferring that there are many possible ways to respond to a situation. Encourage individuals to share their attempts to cope with a problem. Comment on an example which a member of the group has handled with success.

8. Puzzle with the group

When asked a question, involve the group in throughtful conversation. Look together at many different approaches to a problem.

People seldom want your advice. They usually just want a sympathetic ear. Give parents the understanding and confidence to make their own personal decisions regarding child rearing. This is much more exciting to parents than a list of do's and don't's.

When asked a direct question be sure to find out what the person is really asking. When you are sure you understand the question, you can give a few practical suggestions or make an observation, using care that the parent does not feel judged or that his child is inaequate.

9. Minimize defensive feelings

Do this by not pointing a finger at parents. You can't teach people on the defensive. Criticism or too much direct suggestion makes the parent feel guilty, humiliated, inadequate and resistive. Rather, help them to accept themselves with less criticism and resentment.

Always build on the ego strengths you find in people. Always work with personality strengths. Constantly look for those attitudes and behaviors which you can support and comment on them.

10. Use your sense of humor

11. Do not allow yourself to be forced into a superior role

The lecturer- expert role prohibits discussion. Bring about a relationship of equality in a free and friendly conversation. Exploring with others our feelings, attitudes, beliefs, and practices in child rearing and family living implies that knowledge and methods are not as important as they may seem. Discussion should help parents to believe in themselves.

It is comforting to see that other parents have problems too. It is nice to have lived through a problem someone else is experiencing. If a parent can give someone else a little help, the benefit of her experience, it feels good. Let your parents experience the role of expert in the group.

Resist the urge to decide what the group will do or talk about. Topics for discussion must come from the needs expressed by the parents in the group. Let individuals take the initiative in the conversation. Keep your antenna up. Bring out areas of interest to them. Get them started and if possible continue a subject which has interested them at the next session. By taking cues from the people you are working with, you will be led to paths of discussion you could never have envisioned yourself. Let topics grow.

The greatest common denominator for the group is their mutual role as parent of a young child. Therefore it can be assumed that much discussion will center around child rearing. To understand how the child feels, parents often need to refer back to his or her own feelings as a child. Parents also need first-hand experiences, experimenting with materials and taking the trips, just as their children do in school. This helps them to develop an understanding of their child's school life.

Parents may be more interested in coffee and talk than in working on projects. Parents need time to discuss neighborhood concerns and to develop a sense of community so that they may begin to glimpse a role that they can play in community life.

12. Be aware of the general stages of group growth

These stages parallel the human growth cycle. Each group has to do its own growing.

(1) Organizational (infant or dependent stage)

The group needs leadership, time to get acquainted, to develop independence.

(2) Organized and Functioning (adolescent stage)

The leadership may be challenged. There will be conflict, and even dropping out. This stage may go on for some time. We need to keep the group sensitive to the right of each member to contribute. The group may need help to accept differences among the membership. The group needs to be aware that this is a developmental stage, which is expected in the group growth process.

(3) Democratic (mature stage)

The group comes of age. There is cooperative, shared leadership. The majority accepts common goals. The climate is helpful, established, creative, friendly, enjoyable. It is not common to develop a democratic group within a short time. It takes a long period of group living to achieve maturity, though glimmers of a democratic group may appear from time to time. Furthermore, a group can be expected to occasionally revert back to a former stage of development, much as an individual will do as a part of his normal growth process.

13. Watch for signs of leadership

When parents show readiness for responsibility, give them the support they need for a successful experience.

* * * * * *

Do not expect smooth sailing as a group leader. Where all is sweetness and light you have probably developed a dependent group. Leading parent discussion groups is an exciting, exhausting, deflating, dynamic experience. It is great exercise in developing one's ability to observe, to listen, to sharpen perception, to see different attitudes, and to get to know people.

Barbara Durr

January, 1968

TO: Social Workers November 14, 1967

FROM: Barbara Durr

SUBJECT: Records of Parent Education

1. RECORD OF VOLUNTEER TIME

It is most important that an accurate record is kept of time given by volunteer parents. It has been suggested that these sheets be posted in the classroom. Ask the teacher to see that parents who volunteer record the time they give. Encourage parents to write in comments. Teachers should turn in these Volunteer Time Sheets to the Social Worker at the end of each week, adding any comments of their own evaluating the parent participation.

2. ACTIVITIES OFFERED TO INVOLVE PARENTS

The activities offered parents in the parent education program should be recorded on this sheet. These activities might include parent meetings, observation sessions, discussion groups, training sessions for classroom volunteers, trips, etc. Evaluate the effectiveness of the activity you offer in the Comments column. Include comments you might have received from parents.

Social Workers are responsible for keeping all records of parent participation. Record any comments of parents or teachers regarding activities or volunteer time. These comments will be helpful to you in planning ongoing education for parents. The social worker will want to meet on a regular basis with parents who particpate in the classroom.

It is assumed that each of you regularly keep records of all home visits and individual contacts with parents as a part of the case work component of your role as Social Worker. We should be able to include the number of such individual contacts in our compilation of parent education offered by you at the end of the year.

APPENDIX F (CONTINUED)

Social Worker:
School:

ACTIVITIES OFFERED TO INVOLVE PARENTS

Date	Activity Offered	Parents Present	Comments

Some Suggestions for Planning Parent Observation of the Classroom

1. Assign parents a day for observation which is convenient to them and to the teacher.

2. Limit the number for each session to a small group which can be easily seated in the classroom and comfortably gathered in a room for discussion.

3. On the observation day, gather parents together before the observation to acquaint them with what they will see, what to watch for, where to sit in the classroom and how long they will observe. (20 minutes to ½ hour is usually long enough.) Ask them to return to the discussion room to ask questions and to meet with you and the teachers.

4. Sit with the parents as they observe, so that you can discuss what you have seen together.

5. Return to the discussion room and encourage questions and observations from the parents. Hopefully a teacher can find a few moments to join the group to help you interpret the program.

Time involved: Approximately 15 minutes to gather and orient
Approximately 30 minutes in the classroom
Approximately 45 minutes for discussion

Total - 1½ hours

PARENT TOPICS AND HOW THEY GREW

Friday Morning Discussion Groups

September 15

A father present. Mothers talk about how nice it is to have a father's opinion at the meetings. Group uses him as a resource person to help them think through ways to involve more fathers.

This father was active in the community action group. He led a discussion of need for community effort in making changes in their neighborhood.

September 22

As this is the beginning of a new year in school, mothers are complaining about late buses (new bus arrangements have been started). Transportation problems are thoroughly discussed. Lunches are also being given at school for the first time this year (hot lunches).

Carryover from previous week of observation brings out interest in visiting children in classes in other schools. Back to difficulties in transportation for parents and children.

October 6

A mother, who is also a member of the O.E.O. Council, needs statements from mothers for a meeting in Doylestown. She asks them what Head Start has meant to them and their children. We record a list for her of their comments.

October 20

I started this one. Brought in lists of developmental descriptions of a 3, 4, and 5 year old. Asked mothers to recall earliest memory as a child. Used this as springboard to talk about what it's like to be 3, 4, or 5.

Digressions - Haloween candy at Head Start party, pros and cons, the problems of aging, because several had seen TV drama "Do Not Go Gentle Into This Good Night;" troubles with their landlord.

October 27

Visit to a Nature, Art Center nearby. This trip had been planned by some of the mothers who had been sketching in an art class at Head Start over the summer. There were supplies on hand for mothers who wanted to sketch. We all saw the art show of local artists and each "chose" a favorite picture, if we could take one home! Those mothers not sketching identified birds in the bird sanctuary and hiked on the nature trails.

November 3

Discussion centered around the high cost of living, especially food. Mothers decided to compare prices in different stores used by families in this area. They developed a list of foods to compare - baby food, soap, coffee, potatoes, sugar, pork,in specific amounts; also gas and oil. (One mother developed a comprehensive report of her budget and gave us permission to send it to the local congressman to reinforce the need for services by families in this area.)

One mother brought in a "Dear Mother" letter some time back, which is sent out by Penn State extension service. Some of the mothers had signed up to be on a mailing list for this monthly letter. I had one sent to our office too and it arrived during the meeting addressed to Head Start Mothers. We opened it on the spot and decided to discuss it next week, after the others had a chance to get theirs in the mail.

November 10

Short discussion of the "Dear Mother" letter, regarding the importance of Father. Included conversation on disagreement which is common about discipline between father and mother. Got off onto trips they would like to take. We recorded quite a long list, some appropriate for the parent group only and some for both children and parents helping on a class trip. Showed slides of the Halloween party and some of parent volunteers in the classrooms.

December 1

Had visitors drop in on us from Homemaking Service in Doylestown, who explained their services to the group. There were some questions and clarification of this service. A mother refused refreshments and told the group about her diet. Interested mothers asked her to bring in the list of calories in foods her doctor had given her. Some also suggested exercises and decided to have an exercise period one-half hour before the meeting on Fridays.

December 8

Calorie mother had sick children and was not present today. Cut "snowflakes" from paper for decorations at Home and School. Discussed children's activities the week at home because of Christmas vacation. Recorded a list of suggestions. Several children cried at being left in the nursery this morning. We discussed differences of opinion about quick versus gradual methods of getting children used to being without mother. Touched on anxiety on part of mother as well as child.

January 4

Looked over a bulletin sent home regarding evening classes at the local high school. Mothers commented on classes they were interested in. They were: Red Cross classes, discussed rescue breathing used by three mothers in this group to revive their young children from near drowning in their swim pools; Driver Training classes, several want to learn to drive and get their license; Self Improvement Classes - this is the first interest shown in any discussion of grooming; High School Equivalency Diploma classes - discussed problems of transportation to these classes. Recorded and printed this information for the Newsletter. Got into a discussion of high school and dropping out and early marriage at the end of the discussion time.

January 19

This is an example of planning, which may or may not work! There was an article featuring the problems of early marriage in the newspaper. Will bring it along and see if they want to discuss this further.

INTRODUCTION

The Social Worker as a Team Member of a School Staff

The Social Worker is Responsible for Intake

The Social Worker and the Casework Load.

The Social Worker Develops a Setting for the Establishment of Trust

The Social Worker as a Parent Educator

The Social Worker is Responsible for Evaluation

The Social Worker and the Community

CONCLUSION

Developed with the help of:

Linda Mills, Social Worker,
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Panel Discussion - February 23, 1968
   Jean Adams, Centennial Head Start
   Louise Samuels, Warminster Day Care,
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Jean Adams, MS Social Work
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INTRODUCTION

As participants in a research program, we expect to be asked to try new things, and to find new ways to meet the needs of family, school and community. Therefore, it is not surprising that everyone was asked to make some changes in procedures this year. Adaptability has been required of all members of the research team, administration, social workers, teachers, parents and children. Both the teaching and social work programs this year were vastly different from those used in the project in previous years.

Change comes hard for all of us. In order to change we must concede to some extent that that which one has been doing can be improved upon. Changes have occurred this year, accompanied by the expected trauma of its evolution and the exciting realization of a better method.

The social workers in the project are involved in exploring ways in which a social worker can be an effective member of a school staff with responsibilities for parent education. This has required the conception of a new role for the social worker. The revised concept requires the development of new approaches, new ways, new methods. The traditional social work role was not designed to work in a school setting. Studies show traditional case work methods have not been wholly successful with "disadvantaged" families. As members of a research project we have had the opportunity and obligation to innovate and discover a new concept of the role of social worker in the school.

The Social Worker as a Team Member of a School Staff

All members of the school staff have a common interest. Their goal is the fullest possible development of the child. No one school staff job is more important than another in the implementation of this goal. Rather they are complimentary.

The team includes administrators, teachers, teacher aides, volunteers, parents, social workers, consultants, custodian, nurse, lunch help...all those who contribute to the school life of the child.

The sharing of perspective from the variety of disciplines and background represented in a school staff is invaluable. Each team member needs to know the work of the other. Each team member needs to combine efforts for the sake of the child and his family. Opportunities must be provided for a sharing of views. Meetings of total staff and portions of the staff must be planned regularly.

The social worker can be instrumental in the initiation or enlargement of opportunity for such meetings. She particularly needs to see that teachers feel free to come to the social worker with their questions about individual children, at anytime. The social worker's attendance at regular team meetings is important. The social worker needs to hear teacher reports of unusual behavior, prolonged absences and other indices of possible concern. It has been said that the best indication of the family situation is the child. The teacher who knows the child is often the first to be aware of problems and can alert the social worker to these.

The social worker needs to spend time in the classroom observing children and activities. In addition to a clear understanding of the philosophy of the educational approach, she needs a firsthand exposure to the methods each teacher uses to implement this philosophy in order to effectively interpret the school program to parents. Further, both the social worker and the teacher must discover the family's view of what is happening to the child in school.

The Social Worker is Responsible for Intake

Intake is the important first-step process of bringing the family and school together. The social worker is responsible for the intake of preschool children and of families in special programs such as this project. The intake interview is preferably held at school although it may occur in the home. It is an exploratory process for both the social worker and the family. The social worker uses it as a screeing device, evaluation a child's eligibility and suitability for participation in a specific program. The information given at this time allows for question on the part of parents. In the instance of the research program, it leads to a decision of the parents to place, or not to place their child in the project.

The social worker can offer to teachers and other staff members appropriate information about a child and his family which may help them to gain insight into individual needs. The social worker can help to establish a routine for entry so that each parent and child can visit with the teacher in the classroom before school begins. The family needs to know the teacher as the person who will care for their child. This constitutes the beginning of mutual trust between parent and school. This important step deserves the time and care to schedule young children and their parents, into the classroom one at a time or if this is not feasable for children in K-3, in small groups so that the child, teacher and parent can become acquainted with each other and the school situation. At this time the teacher can personally reinforce the social workers invitation to parents to participate in the classroom.

In some schools, as the social worker becomes aware of needs of individual children, she may suggest that specialists be brought in to observe and/or work with an individual child. This may even be a community or parent volunteer who can give the child a greater opportunity for attention in a one-to-one relationship with an adult. Home visits, necessitated by special situations, parent signatures on forms, and for other reasons also provide opportunities for the social worker to interpret the school program and to reinforce learning in school. This year, in the absence of the Ford Nursery program, the social worker has had fewer new families to enter and is continuing her acquaintance with families who have previously participated in the program.

The Social Worker and the Casework Load

Usually the social worker has far too great a number of families enrolled to consider working with each, or even a very small percentage, on a case work basis. The social worker's interest is the total family. She cannot confine her concern solely to the individual child in the project. The social worker may be able to guide other family members to community agencies for help.

The social worker will become aware of the need for some form of counseling for a portion of her families. Others will benefit from the school experience of the child and the opportunities which the social worker and the school provides for parent involvement. This year, because of the use of discussion groups with parents, much of the case work load has identified itself to the social worker.

It has been suggested that the social worker gives 50% of her time to individual casework with families, and the remaining 50% to the development of a parent education program.

However, these two areas become inter-related and are difficult to separate in practice. Parent discussion groups yield ideas, clues, and opportunities for parent education. It is seen as a short cut to previously lengthy rapport development with individual families. It gives parents and staff a chance to talk together about concerns and makes it possible for the social worker to reinforce the learning experience of the children's school program.

The need for individual casework services often becomes apparent in the conversation. It is not unusual to find a parent recognize a need for services and ask for help from the social worker.

The Social Worker Develops a Setting for the Establishment of Trust

The social worker may be the school staff person who knows the family best, due to her responsibility for intake.

In relationships with indigent families, the social worker often encounters suspicion on the part of clients who have a history of being exploited and surveyed. Most people are wary of anyone who comes into their homes to "help." It takes time to break down hostilities which people have built up as defenses to protect themselves from further exploitation and disappointment. They may have had many experiences with the school and the outside community which have taught them to be distrustful. It is often difficult to win confidence and equally difficult to keep it.

A parent may find it easier to feel close to another staff member, for example, a teacher aide, a neighbor, or a volunteer. The social worker sees this as an appropriate first step to bringing the parent closer to the school. Close consultation between the staff member, who has the parent's trust, and social worker is important. The social worker's training helps her to know when to move into a situation, and when to stay out. She can help the staff person to work appropriately with the parent and help her to lead the parent into a relationship with the social worker if possible.

School social workers are finding that being available at school with many opportunities for informal talk with parents over a long period of time is most helpful. Regular parent discussion groups are seen as a social work tool. With a free open door policy to parents, the school becomes a familiar setting. There is no pressure in these informal gatherings. Parents feel accepted and comfortable. There is time to get to know the social worker and other staff members and each other. In informal group meetings, the beginning process of rapport occurs nicely, easily and naturally. Parents find the social worker as someone they can talk to. Then, when crisis occurs in the family, parents will often seek the help of the social worker.

School social workers find opportunities to work with parents who are augmented by crisis. These become points of entry into casework with a family. With a relationship to trust built up in discussion groups, and with the parent comfortable in the school setting, the social worker is on the spot to enter the situation naturally. The parent is more apt to be able to take the help the social worker can offer.

The social worker must see each situation as different and providing an opportunity for new approaches and new considerations. This requires flexibility on the part of the social worker.

The Social Worker as a Parent Educator

The social worker is and has been a parent educator in her role with parents. Two areas have been used this year to facilitate learning opportunities and expand responsibilities in this area.

A familiarization of the child's school experience is felt to be of value to his parents. Observation of the classrooms have been planned with discussion following. Parents have been encouraged to participate in the classroom as teachers helpers. This kind of program needs continued support for both parents and teachers. The social worker can help parents to arrange for participation and encourage her to try. But essentially it is the teacher who must feel true need for help, the importance of the experience for child and parent and the necessity of making the parents' time at school a happy one.

Teachers will begin to see the need for the help of an additional adult in the classroom as she plans for small group learning with her class.

Parent discussion groups are seen as instruments which facilitate changes in its membership. The social workers are learning to develop and require leadership skills which permit the group discussion to follow the course of the needs and interests of the group. Her topics then come from the group itself and she finds opportunities to underscore, commend, or suggest those attitudes and environmental factors which lead to the educational development of the child.

The Parent Education Program offers parents a new awareness of the child and their importance to that child, opportunities for self-growth, and an awakening sense of community.

The Social Worker is Responsible for Evaluation

Evaluation of parent attitudes and home environment is difficult. The instrument given to social workers to use with parents in the project is Dave's Index of Educational Environment which was administered early in the school year to a random sampling of approximately 20 families. The list is then readministered to the group of parents from that sampling who have been most active in parent education programs to ascertain if this involvement affects their scores.

Records have also been kept of parent participation in the classroom and in school supporting activities. Additional records are kept of meetings, discussion groups and observations led by the social worker. These give us a picture of attendance and provide an opportunity to evaluate what is offered and to plan for further activities.

The social workers feel that the growth they have seen in their project families is not always gathered by the testing instrument. Therefore, each social worker has been encouraged to help observations, anecdotes, comments from parents and descriptive narratives to show the changes they feel have taken place. Though necessarily of a subjective nature, these records state in a very human way the meaning of the parent education program to individual families.

The Social Worker and the Community

The social worker builds relationships with community agencies. She is aware of the services available to her families and makes referrals to them.

Agencies serving our communities are overloaded. References must be made on a case-to-case basis. We feel the pressure of time as we work with our families. Their needs are immediate and services are seldom able to meet them promptly. We feel services need to change in major, sweeping ways. Rather than to accept the inadequacies and insufficiencies of community servies, the social worker needs to work to improve them. Social workers need to ask what can be done to help implement change in community services so that they can begin to really meet the needs of the people. They must work with agencies toward that goal.

Conclusion

The social worker is an important member of the school team which seeks to improve the education of children so that the probability of their continued success in school will be increased. She brings her special skills with families to the effort in an attempt to change the attitudes and behavior of parents so that they will exert a positive influence on the educational development of their children.

KOFFEE KLATCH - SCHOOL Z

In our school in our community, we have what is known to us as "Koffee Klatch." It is a weekly parents' meeting where we gather to have coffee and talk.

Here we have learned how and what our teachers are doing to help our children learn. There are several of our mothers who devote their spare time in the classroom helping as well as learning. We are all grateful to these mothers because it is with their help that my child as well as all the other children can have the attention they need to become better individuals.

There is always a project going on at the "Koffee Klatch." We have had: Art classes, sewing classes, guest speakers, and when the weather permits, we go on trips to many interesting places in our community. Sometimes we just sit around and talk about ourselves and our problems.

Friday morning is not the only day that the coffee pot is going. The parents are always made welcome. There is always someone around to help if we have any problems or questions.

The people on our school staff are very special to us parents. I would like to give my thanks to them for so many rewarding hours.

There is a lot of learning to be had, but most of all it is a lot of fun in learning as we all have learned in our "Koffee Klatch."

Written by

Wanda Fishburn

EVERY FRIDAY MORNING
FREE BABY SITTING

APPENDIX G

Commonwealth of Pennsylvania
DEPARTMENT OF PUBLIC INSTRUCTION
Harrisburg

SUBJECT: Agenda for Workshop - August 21 - August 25, 1967
Preschool and Primary Education Project

TO: All Ford Foundation Staff

FROM: Beatrice L. McInerney

TIME, DATE, LOCATION

August 21 through August 25, 1967
Holiday Inn-Town, Harrisburg, Pennsylvania

AGENDA

MONDAY - AUGUST 21, 1967

9:00 - 10:30 Setting or Environment for Learning — Bea McInerney

10:30 - 10:50 Coffee

10:50 - 12:00 Oral Language Program
- Conversations
- Unit themes
- Verbal interaction in activity period
  - Teacher - Child; Child - Child
- Story time
  - Dramatizations
  - Re-telling stories
- Picture interpretation
- Music - Rhythms

Madeline Ellsworth
(Former Associate Professor,
Rhode Island State College)

12:00 - 1:00 Lunch

1:00 - 2:30 Language Charts
- Sentence sense and patterns
- Organization skills
- Left to right orientation
- Memory of letter forms and words
- Ability to express ideas orally
- Clarity and depth of thinking

Madeline Ellsworth

APPENDIX G (CONTINUED)

2:30 - 4:00 Demonstrations of building language charts
Exhibits of language charts
Practice in writing language charts
by participants — Madeline Ellsworth

TUESDAY - AUGUST 22, 1967

9:00 - 10:00 Book Behavior
Sequence
Importance of reading to children
Reading pictures and memory reading books
How to read stories
(Demonstration) — Bea McInerney

10:00 - 10:20 Coffee

10:20 - 12:00 Experience Charts - (Reading)
Developing initial sight vocabulary
Developing association of beginning
sounds with letters
Developing reading for meaning — Madeline Ellsworth

12:00 - 1:00 Lunch

1:00 - 4:00 A. The Experience Chart as the Initial Reading Material
Provides timely, interesting material
Provides opportunities to judge his
readiness for reading instruction
Demonstrations of building experience charts
and exhibits of charts made by Mrs. Ellsworth's
Kindergarten and 1st Year pupils

B. How to Use Charts to Develop Beginning Reading Skills
Demonstrations of ways to use charts for drill
on sight vocabulary, beginning sound associations,
word discrimination, fluency, word and sentence
meanings — Madeline Ellsworth

WEDNESDAY - AUGUST 23, 1967

9:00 - 10:00 Overview of Ford Program - 1967-1968
Questions — Bea McInerney

10:00 - 10:20 Coffee

10:20 - 11:10 Non-graded Concept
    History
    Organization for (examples)
    Advantages
    Pitfalls
    Kathleen Moynahan Garner
    (C.A.G.S., Harvard University;
    Science Consultant, Lexington, Mass.
    Public Schools)

11:10 - 12:00 Science Experiences for Young Children

12:00 - 1:00 Lunch

1:00 - 2:00 Team Teaching
    What is it? (Space
    Organization for (examples) (Teachers
    (Children
    Advantages
    Pitfalls
    Question period
    Kathleen Moynahan Garner

2:00 - 3:30 Teams from Each School District Work on Problem of Grouping with Hypothetical Roster and Evaluation
    Information
    Help from Consultants
    McInerney - Garner

THURSDAY - AUGUST 24, 1967

9:00 - 10:00 Training in Auditory Discrimination
    Visual Perception
    Bea McInerney

10:00 - 10:20 Coffee

10:20 - 12:00 Materials
    McKee's program for beginning reading skills
    (Records - Master Sheets)
    Demonstration
    Dr. Marion Jennings
    (Boston College, Professor,
    School of Education

12:00 - 1:00 Lunch

APPENDIX G (CONTINUED)

1:00 - 3:00 Materials (continued)
- Bill Martin's Sounds of Language
- Scott, Foresman Open Highways, Gr. 1
- Readiness Kits
  - Ginn
  - Holt-Rinehart Winston
  - American Book

Dr. Jennings

3:00 - 4:00 S.M.S.G. Math — Bea McInerney

FRIDAY - AUGUST 25, 1967

9:00 - 10:30 Parent Education Program
- Rationale
- Types of activities

Barbara Durr
(Centennial, Family
Life Consultant)

10:30 - 10:50 Coffee

10:50 - 12:00 Parent Education Program
- Role of Social Worker and Teacher
- Material Giving and Lending Center

Barbara Durr

12:00 - 1:00 Lunch

1:00 - 4:00 Ways of Observing and Interviewing Children
- Readiness Check List
- Language Scales
- S.M.S.G. Math Inventory

Bea McInerney

Commonwealth of Pennsylvania
DEPARTMENT OF PUBLIC INSTRUCTION
Harrisburg

SUBJECT: Agenda for Workshop
Preschool and Primary Education Project

PLACE: Penn Harris Hotel, Harrisburg- Governor's Room

DATE: January 12, 1968 (9:00 A.M. to 4:00 P.M.)

9:00 - 9:30 Coffee--Doughnuts (Renew Acquaintances)

9:30 - 10:30 How to Build a Parent Education Program
Barbara Durr, Parent Education Consultant
Jean Adams, M.S.W.

10:30 - 11:00 How to Use a Mother Volunteer in the Classroom
Kullie Mellor, Preschool Coordinator,
Centennial School District
(Mrs. Mellor will show and explain film strips that she took of the volunteer program in Lacey Park)

11:00 - 11:30 How to Teach Parents to Work in the Classroom
Doris Hays, Beverly Schwartz
(Mrs. Hays and Mrs. Schwartz will re-enact an actual orientation meeting that they conducted for parents last fall)

11:30 - 12:00 How to Get Cues Concerning Parents' Needs from Informal Group Gatherings
Film "Talking Together" Bank Street College of Education
(Barbara Durr and Linda Mills, who recently visited the Bank Street College and talked with many of the parents shown in the film, will contribute some of the highlights of their visit)

12:15 - 1:15 Lunch - Governor's Room

1:15 - 2:00 Early Childhood Education - The State Department's Point of View
Charlotte Garman, Early Childhood Specialist,
State Department of Public Instruction

2:00 - 3:00 Findings on the Language Scale Administered to all Children in the Project; Implications of these Findings for Curriculum and Instructional Procedures
Linda Nash and Keith Kershner,
Researchers in Charge of Testing and Evaluation

3:00 - 4:00 Questions, Discussion, Complaints, Sharing Problems and Ideas
Teachers with Beatrice McInerney
Social Workers with Barbara Durr

APPENDIX H

LETTER FROM TEACHER

The philosophy of the Primary Unit is not foreign to me as it was the premise on which my college training was based. But when I graduated and entered the classroom as a teacher I found that none of these beautiful ideas was being practiced. In defense of my having turned my back on these principles, I can only say that I was young and new in the field and very green. I followed example, did as I was told, and soon learned to fall into the groove.

By the time these ideas on education caught up with me again, I must confess I was ill-prepared to accept them, because by now I had formed habits that were difficult to break, much less was I able to change my thinking. One of the hardest things to become accustomed to was the freedom of movement about the room and the noise which accompanies it. I soon learned, however, to tell the difference between noisy noise and busy noise and I am able to bring order out of what I thought would be chaos. Early in the program I had a fear that in the freedom of changing rooms, some child might leave the school. I found that by working the arrangements gradually, it became a sincere interest in doing something in another room that motivated the move and therefore precluded this "taking off" that I had feared. There were a few occasions where a couple of the one-half day children have followed this course of action, but I attribute this to the fact that these particular children were not yet mature enough to be given this broader freedom.

It is a source of great satisfaction to me now to be able to observe these children during a selection period, busily engaged in various activities. Many were solo players in the beginning of the year and now are very much involved in play with their fellow classmates. There is a great opportunity for the development of social habits in the relationship in which it should be taught. These children learn a real regard for their fellows in the pursuance of these activities.

There is opportunity to experiment with many more media than would otherwise be available to them and they are not subjected to doing something in which they have little or no interest just because it is a class project.

This program affords me the chance to know my children as personalities and to give individual help as needed. Due to these large blocks of activity the children are capable of sustained interest in the Language Arts period and much more is accomplished in less time than heretofore.

APPENDIX H (CONTINUED)

I still have moments when I experience some anxiety as to progress in terms of books read and the approaching year's end, and at times like these I have to remind myself that it is the children that are most important and since their learning environment is so much improved and the motivation for learning so high, they will surely reach their potential and without danger of killing their interest somewhere along the way.

If I sound enthusiastic, I can only say that I don't think I will ever again have, what I call for want of a better term, a conventional classroom.

Doris C. Hays

PY A918.17/8
1968-69

1968-1969 FINAL REPORT

to

THE FORD FOUNDATION

PENNSYLVANIA
PRESCHOOL AND PRIMARY
EDUCATION PROJECT

Keith M. Kershner
Project Coordinator

October, 1969

Conducted by
The Department of Education and The Department of Public Welfare
of the
Commonwealth of Pennsylvania

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ACKNOWLEDGEMENT

Over the years countless persons and agencies have contributed to the conduct of this project. Here special acknowledgement is given to those most directly involved this year.

The major financial support was received from the Division of Education and Research of The Ford Foundation. Sincere thanks are extended to Miss Marjorie Martus, Assistant Program Officer, and Mr. Paul Nachtigal, Ford Consultant, for their constructive criticism and advice.

Particular appreciation is expressed to Dr. Robert B. Hayes, Director of the Bureau of Research, Department of Education, for his continuing interest and support and stable advice in times of difficulty. Appreciation is also expressed to Dr. Frank M. Durkee, Director of Applied Research, who handled all budgetary matters.

Special recognition is given to Mrs. Beatrice L. McInerney who, as Director of Program Development last year, established much of the rationale and operational procedure by which the project was conducted.

Grateful appreciation and acknowledgement is extended to all of the teachers - Mrs. Vivian L. Bishop, Mrs. Anne Creamer, Mrs. Mary D. Hudders, Mrs. Doris C. Hays, Mrs. Joanne B. Scheib, Mrs. Isabel C. MacKenzie, Mrs. Marjorie Apple, Mrs. Virginia Griffin, Mrs. Patricia Newton, Mrs. Barbara Ingram, Mrs. Beverly Schwartz, Miss Carol Whitebread, Miss Ellen McGill, Mrs. Dorothy Galanka, Miss Linda Helmstadter, and Mrs. Hazel Slabaugh, and the teacher aides - Mrs. Sally Fertig, Mrs. Sally Stewart, Mrs. Joann Henriques, Mrs. Sandy Long, Mrs. Grace Dickinson, Mrs. Goldie Scarborough, Mrs. Elaine Battis, Mrs. Jane Peters, and Mrs. Audrey Lazuka, and to Mrs. Jean Adams, Mrs. Elise Wilson, Mrs. Susan Giordon, and Miss Linda Helmstadter who served in the role of social worker. Their energy, spirit and skill were essential in making the program a success.

Appreciation is expressed to the school district coordinators, Mrs. Betty Mellor, and Mr. George Plava, and the school principals, Mr. Arnold Lindley, and Mr. Carmen Guappone, whose high interest and constant attention were responsible for keeping all of the components of the program going and maintaining a developmental climate within their schools.

Recognition is given to the project consultants, Dr. Alfred Castaldi, Dr. Bradley Seager, and Dr. Lorraine Morgan, who regularly worked with the project teachers and staff and excelled in their task, displaying not only knowledge and skill, but also commitment.

Grateful appreciation is expressed to Mr. Russell A. Dusewicz, Director of the Early Childhood Project, West Chester State College Learning Research Center, for his advice and aid on all aspects of this project and for handling much of the statistical analysis at the West Chester Computer Center.

Appreciation is also expressed to Dr. Carroll A. Curtis, Research Associate, Bureau of Research, for his helpful suggestions in editing this report.

A special note of thanks is given to Mrs. Catherine Hollenbaugh and Mrs. Darby Leppert who accomplished superbly the sometimes mountainous secretarial tasks associated with this project. Their manner was always cheerful and their performance excellent.

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I. INTRODUCTION

On July 1, 1963 the Pennsylvania Preschool and Primary Education Project was launched as a "comprehensive and long-range attack on the drop-out problem." More specifically this project, jointly supported by the Ford Foundation and the Commonwealth of Pennsylvania, was aimed at gathering and analyzing information about the behavior of culturally disadvantaged children. This knowledge was then to be used to develop and institute a comprehensive methodology administered by the school system to improve the education of disadvantaged children. From a wider view, the development, utilization, evaluation, and dissemination of innovative and eclectic techniques would provide to any school having the characteristics of the project schools a basis for improving their programs. Thus this project does not fit exactly any one of the usual categories by which a study may be classified. It is a research project in that designs and evaluations are used. It is a developmental project in that knowledge gained is continually used to modify future programming. It is also a demonstration project in that the feasibility and consequences of employing certain procedures were shown in an area of education which has become increasingly critical and virtually a matter of national survival.

Within the goal of improving the education of culturally disadvantaged children, four objectives or strategies were initially established:

1. To develop an educational program which compensates for certain specific behavioral deficits of the children from culturally disadvantaged environments.

2. To improve the educational preparation of teachers and other professionals who are presently serving or will serve the culturally disadvanged child.

3. To develop more effective relationships between health and service agencies and the schools so that they can better serve the children and the parents of families living in culturally disadvantaged neighborhoods.

4. To change the attitudes and behavior of parents so that they will exert a positive influence on the educational development of their children.

To these there should be added another objective which has increased in importance with time and is the most important if evidenced improvements are to be maintained:

5. To motivate and assist school districts in the continuance of preschool and primary programs as part of their regular function.

These objectives have retained a stability over the years if the methods used in their pursuit have not.

The advantages as well as the disadvantages of a several-year study have been fully experienced. The time afforded the opportunity to benefit from mistakes and to develop from year-to-year in the same effort. It allowed the collection of some longitudinal data. It gave the possibility of exercising persistence in affecting variables which are typically resistant to change, such as attitudes, self-concepts, and role structures. The temporal advantage was a blessing, for its lack may be suspected as a cause for failure of many projects in this field; but the simple physical fact of six years presented many complex and confounding problems. Designs predicated upon the location of a particular people at particular places fell to pieces because people are prone to move these days. Among our samples, people moved frequently and the conventional research strategy of experimental and control groups dissipated after a few years. It was also found that some of the schools became uncomfortable with what was being attempted, and the central staff became uncomfortable with what some of the schools were doing. Thus, the sample composition changed. Finally, with a fair frequency the project leadership and staff experienced change with time. An influx of new ideas can be helpful to be sure, but it can also be abrupt and disruptive to continuous and directed progress. New personnel also involves new resolution of personality interaction which can be a source of inefficiency and a counterbalance to the advantage of time.

The Pennsylvania Preschool and Primary Education Project began with one school and in its second year was expanded to seven project school districts. In this the sixth and final year, the staff has worked quite intensively with two districts, one of which has been involved for six years, and the other for five years. The last two years of the project have been uniform and consistent in conduct. This report deals primarily with the year 1968-1969, with the inclusion of certain longitudinal data from the year previous. No further historical reference will be made as it may be found in previous reports. However, it was felt that for this final report, a brief summary of the past experience could be afforded for completeness and as a setting for the last year's activity.

II. A SURVEY OF RELATED LITERATURE

Since 1963 a great deal has occurred in the theory and methodology surrounding work with the "culturally disadvantaged." It is the purpose of this chapter to review those developments particularly as they are related to research in the field. This is the context within which the present study has been conducted. It serves to emphasize the rationale which has developed in this area of education as well as delineating the procedures and results which are associated with its application.

The terms "cultural deprivation" and "cultural disadvantage" have become accepted elements in our vocabulary. Conceptualizations of what these words mean vary from individual to individual. They generally connote that set of conditions usually associated with economically impoverished environments which result in disabilities among its inhabitants in meeting the performance standards upon which "success" has become contingent in comtemporary society. The ramifications of the general phenomenon are as numerous as they are pervasive, but these disabilities have become very clear and very critical in our educational systems. The fact that culturally deprived children do not do well in our schools has become well established (Cooper, 1964; Deutsch, 1965; Karp and Sigel, 1965; Whitt, 1966; Green, Hoffman and Morgan, 1967). These children enter school with lower abilities, as measured by the typical aptitude and achievement measures, and maintain a disadvantage relative to middle class children as they go through the school system. The gap between the normative standards and their performance often increases with time to effect what Deutsch has called a "cumulative deficit." Thus, as time goes on the disadvantaged child falls further behind his "advantaged" peers. The result is that the child is ill-prepared for anything in life but failure, and a perusal of any of a number of sources would indicate that this is what he finds (Bremner, 1964; Havighurst, 1966; Thompson, 1968). This is a problem of major proportions as well as a glaring failure of our educational systems, as public responsibility seems to be currently defined.

The content and causes of the problem have been seriously investigated and described from several points of view including those indicated above, Conant (1961) and Deutsch, Katz and Jensen (1968). The major constructive approach defines the deprivation as an environmental anomaly which must be overcome by exposure to an enriched environment which will stimulate growth.[1] By this conception an environment low in stimulational frequency, variety, patterning and meaningfulness might be expected to foster in its inhabitants passivity, limited adaptability and general inexperience. Conversely, supplying an environment high in stimulational qualities should promote reversals in these trends. Support has been lent to these assertions by the laboratory work of several investigators who found that differential stimulation during infancy resulted in differential trends in adulthood with respect to learning capacity and adaptability (Krech, Rosenzweigh and Bennett, 1961; Levine, 1960).

The Skeels and Skodak (Skeels, 1966) study also stands prominent in the background of the environmental enrichment approach. The initial study, conducted in the 1920's, involved an experimental and a control group of about thirteen children each between one and two years old. All children were institutionalized in an orphanage depicted as severely limited in the opportunity for physical and emotional stimulation. The experimental children were removed and placed singly in wards for mentally retarded females at a state hospital. Here they were "adopted" by inmates and given a great deal of attention and experience. The control children were left in their orphanage environment. The groups were characterized as being similar in terms of birth histories, medical histories, and family backgrounds. After a two and one-half year experimental period all children were measured on the 1922 version of the Kuhlman-Binet Intelligence Test. The experimental children exhibited a mean gain of 25.5 points, while the control group had a mean loss of 26.5 points. This difference was highly significant ($p<.001$). After two more years the children were measured again. The total mean gain for the experimentals was 31.6 points compared with a 20.6 loss for the controls. At this time eleven of the experimental children, none of the controls, had been adopted. Twenty years later all subjects were assessed on "real life performance." Of the experimentals eleven were married with families, they had a yearly median income of $4,800; and their mean of school years completed was 11.8. Of the controls, one was married; they had a median yearly income of $1,200; and their mean of school years completed was 3.95. This study suffered from a number of problems experimentally, but it is a dramatic and classic demonstration of the possible effects of differential opportunity in our concern as it is related to environment. The study illustrates on a gross level what we mean by deprived environments and enriched environments.

---

[1] Other theoretical bases include those emphasizing genetic determinants, medical factors such as diet, structural linguistics, motivational and self concept reinforcement, etc. These approaches per se have not received the attention that the enrichment approach has; however, the enrichment approach in practice is a very eclectic one, taking elements from virtually all the others. It is this overlapping and generality of the enrichment approach that make it the most comprehensive, hence fruitful for discussion, yet complex in terms of analyzing treatment

With the advent of Head Start in 1965, these idea were operationalized on a large scale. The projects conducted have varied widely in procedure, but the generalization can be made that they have sought to overcome the effects of deprived environments experienced at home via exposure to enriched environments at school. The preschool and primary projects attempt to prepare the child for school and the competition level that he will encounter. This goal has been approached with varying degrees of success. The published studies having a reasonable evaluation component in their design are discussed below.

Smith (1968) tested fifty-five poverty area children who had had a full year pre-kindergarten program and forty-seven same aged children from the neighborhoods who had had no pre-kindergarten experience on the Stanford-Binet (SB) and the Peabody Picture Vocabulary Test (PPVT). The children were tested once during the summer before entering kindergarten. The experimentals scored significantly higher on both the SB ($p < .001$) and the PPVT ($p < .05$). The treatment was specified only as a Head Start program, and since there was no pretesting, possible sample bias had an unknown effect. It might be proposed that parents enrolling their children in Head Start programs are systematically different (thus providing different environments) from those who do not; however, the results obtained by the Westinghouse Learning Corporation (1969) do not support this proposal. If this data can be accepted, then the conclusion that the children with preschool experiences were better prepared to enter school than those who had not had such experiences is warranted.

McInerney, Durr, Kershner and Nash (1968) pre- and posttested approximately two hundred children on a series of measures including the Science and Mathematics Study Group Individual Mathematics Inventory, the Oral Language Scale, the Metropolitan Readiness and Achievement Tests, and the California Test of Mental Maturity. These children were five-and six-year olds from severe poverty areas. All were participants in an enrichment program designed around diagnostic and team-teaching procedures with the extensive use of manipulable materials and adult-child interaction. No control groups were employed in the design. On all measures the children exhibited consistent and statistically significant gains. The lack of control groups presents problems of interpretation; however, the subjects progressed from well below normal, in normative standard scores, into the average category on the standardized instruments. In light of the research cited above with regard to the progress that can be typically expected, this is meaningful though not conclusive.

Gray and Kaus (1965) conducted one of the more sound experimental studies in this field. Sixty four-year old culturally deprived children were assigned randomly to three treatment groups. Group One received three years of summer school plus weekly contact with a home visitor during the school year. Group Two participated in two years of summer school plus weekly contacts with a home visitor. Group Three received nothing but the testing. A Fourth Group selected independently served as an external control. The treatment for the experimental groups was structured around three stimuli and five reinforcement dimensions: gross amount of potential stimulus input, number of different kinds of stimulus input, figure ground relations, total amount of reinforcement, source of reinforcement, amount of verbal reinforcement, direction of reinforcement, and focus of reinforcement. All groups were tested at the beginning and end of each summer on the SB, the PPVT and the Illinois Test of Psycholinguistic Abilities (ITPA). The course of development on the three measures was similar. All groups started at about the same level, but by the end of the second summer the two experimental groups were significantly higher ($p<.05$) than the two control groups while there was no difference between the two experimental groups or the two control groups. By the end of the third year the differences were quite marked, the curves for the experimental groups resembling accelerated growth curves while the control curves were rather platocurtic. This experiment was well conducted and supportive of the enrichment hypothesis.

DiLorenzo (1968) randomly assigned 780 three and one-half to four and one-half year old culturally deprived children to experimental and control groups. The control group received a traditional half-day nursery school program while the experimental group experienced three different treatments varying in rationale, content and time of exposure. This lack of consistency in the independent variable is explained as resulting from the large numbers of school districts involved. For various reasons only 465 children remained for the posttesting: the SB and the PPVT. The results indicated that the experimentals exhibited no change on the SB while the controls had a significant mean loss of 2.55 points ($p<.05$). On the PPVT both groups had pretest-posttest gains, but the experimentals gained significantly more ($p<.05$). It was concluded that such enrichment programs have the potential of at least preventing the regression that is frequently encountered.

Weikart (1964) and Deutsch (1965) used enrichment programs with groups of over thirty culturally deprived children. Experimentals and similar controls were posttested at the conclusion of one year of treatment. It was found that the experimental groups had gained significantly ($p\leq.05$) more than the controls on the SB and the PPVT. These results are also generally supportive of the enrichment hypothesis.

It may be observed that the reported studies vary widely in their methodology and the composition of the treatment variable is frequently imprecise. These factors make comparison difficult. Also, in the practical situation randomization techniques are possible only infrequently. This limitation on control comparison and sample sizes makes it difficult to confidently generalize the results. However, given these limitations, it can be generally stated that enrichment programs have beneficial effects on their participants--effects frequently of a cognitive nature. These are gains which would not be expected given the observed regression with no special program, but they cannot be conclusively attributed to the variable which we have called "cultural enrichment.

If the gains achieved during the course of enrichment programs are real, then the next question is whether or not they are transitory. That is, will observed differences between children who have had preschool experience and those who have not, cease to exist once both groups have been in a regular school situation for a period of time? The experimental question here involves an attention or novelty effect. Spicker, Hodges, and McCandless (1966) conducted an experiment involving four intact groups of thirteen deprived preschool children. Group One received an experimental enrichment program. Group Two was a regular kindergarten class. Group Three was an at-home control, and Group Four was an outside control. All groups were pretested and posttested on the SB, PPVT, and the ITPA. The overall results indicated that the experimental group significantly outperformed the control groups on all measures. However, when all groups were retested on the three instruments after the children had been through one year of the regular school program, no significant differences remained. This suggests that possibly the initial differences were due to the novelty and attention factor of the program and that gains are equalized once all children have been exposed to the novel elements of any school program which are not present in the home environment. Under this proposition the integrity of the enrichment variable crumbles.

The Westinghouse Learning Corporation and Ohio University (1969) conducted a large scale study to determine precisely this: whether the gains of children given preschool experience relative to those who have had no such experience are maintained through the elementary grades. This, after all, is the critical question, both experimentally and practically. The goal of equal preparation will never be attained if a position of relative disadvantage is resumed as soon as treatment ends. In the Westinghouse study a sample of summer and full-year Head Start centers was selected representing a cross-section of the country. Children who had participated in the activities of these centers and were in the first, second, and third grades were tested on a variety of cognitive and affective measures. Control children from each location who had no Head Start experience and were also in the first, second and third grades were selected and tested on the same measures. All children had resided in their respective areas since the inception of Head Start. No determined relevant differences were found in the personal and background characteristics of the experimental and control samples. No determined relevant differences were found between the remaining control sample and the population of non-Head Start people who had migrated from their areas since the inception of Head Start. The samples thus seemed to be reasonably similar except for the preschool vs no preschool experience. No overall differences were found between experimental and control children on any measure. This study was admittedly post facto and subject to all the limitations pertaining thereto; however, the results were nonsupportive at least and devastating at most. There are at least two equally plausible explanations for these results. The enrichment projects may not be working because of procedural inadequacies or because they get the children too late or for too short a time. A second reasonable possibility is that the regular school experience encountered by the Head Start children is nonsupportive or antithetical to the gains they have attained. These are the most pertinent areas to be investigated in the future.

The Pennsylvania Preschool and Primary Education Project attempted to deal with some of these problems of continuity extending the program to cover a series of age levels so that the child's experience will be an extensive one, as well as integrating the regular school program with the preschool and primary program. Attempts were also made to employ the various treatment elements in a coordinated and consistent manner. This is the subject of the remainder of this report.

III. PURPOSE

The basic intent of this project has been expressed in the statement of continuing objectives in the introduction of this report. These objectives can be summarized as being an effort to develop and operationalize a comprehensive school-administered program for culturally disadvantaged children which will help them to achieve while they are in the program and prepare them to achieve in the regular school situation. This involves working with the child and the other significant elements in his environment which shape his development--parents, present and future teachers, schools and other health and service agencies. Viewed from the time dimension this effort can be divided into two parts: the pursuit of objectives for the children currently in the program, and the attempt to ensure the continuance of an active developing program, as well as an aware consistent regular school program for furtherance of the children's education. It is the contention of the Pennsylvania Project that inadequate attention to the various significant elements in the child's environment, inadequate program time for the child himself, and the inability to affect the regular school program such that it can knowledgeably receive preschool and primary project participants are critical factors in accounting for many such projects not living up to their expectations. Thus, in the Pennsylvania Project emphasis was placed on these factors.

There is inherent in this study a series of assumptions. They are directly related to the stated objectives and basically posit that the accomplishment of these objectives will indeed improve the education of the culturally disadvantaged child. These assumptions specifically are:

1. Culturally disadvantaged children can be better prepared to succeed in the first year of school if they begin preparation while they are three to four years of age.

2. These children will do better work in the primary grades of school if the educational program for these grades is articulated with the preschool and if it is designed specifically for the characteristics of culturally disadvantaged children.

3. These children will perform more successfully in school if their physical and psychological problems are attended to.

4. Parents of culturally disadvantaged children will take a more active, positive role in assisting in the education of their children if they learn how better to perform the role.

5. Teachers will become more effective with culturally disadvantaged children if they learn more about the characteristics of these children and ways to assist them to learn.

These assumptions are all, in other contexts, material for researchable hypotheses. It is a viable question as to whether or not they can be realistically extracted and adequately tested. At any rate, it was not within the scope of this project to do so. Neither did this project employ a tightly structured research design with a control situation. Rather the Pennsylvania Project developed and tried a comprehensive program, from the evaluation of which one could generally conclude the existence or nonexistence of educational progress among the children. This must then be compared with the general and specific progress to be expected from children given no treatment or another treatment in order to determine the worth of these efforts. Beyond this generality developed and imposed evaluative procedures were used to assess the value of individual elements of this program. These procedures varied from the subjective to the quasi-experimental, but it must be recognized that such evaluations provided information as perceptively as could be conveyed, not proofs. This report hopes to disseminate what has been learned about the workings of preschool and primary education programs, to build cases for those elements concluded to be integral, and to make available information relevant to the creation and conduct of such programs by other agencies.

IV. TREATMENT PROGRAM

During the 1968-69 school year the Pennsylvania Project worked extensively in two school districts, each having one experimental sample. One district was rural, the other could be classified as urban or suburban depending on the criteria. Due to the great differences between the districts they are described separately in the treatment and evaluation sections of the report.

THE RURAL SCHOOL

The Rural School served a number of small and scattered settlements in the Appalachia area. The settlements were largely old mining towns that had had little improvement for many years. Indoor plumbing and central heating were frequently lacking. Medical and other social services were typically not economically nor physically available. The racial composition of the area was approximately 30 percent Negro and 70 percent White. It was found that 98 percent of the residents had lived at their present address for more than two years. Thus indicating a stable as well as an extremely depressed environment.

There were approximately 122 children enrolled in the project, with a staff of four teachers. Forty-three percent of the families had a yearly income of less than $3000, and an additional 32 percent an income of less than $4000. There were 42 percent of the families receiving public assistance during the past year, and 4 percent of the mothers were working. The size of the families was found to be relatively large, 83 percent had three or more children, and 32 percent six or more children. Chronic physical or mental disease effect about one-fourth of the parents. Approximately 70 percent of the parents had not completed high school.

Educational Program. The mainstay of the educational program was a diagnostic ungraded approach to teaching. Project children from the ages normally associated with Kindergarten through Second Grade were grouped according to their level of functioning in the various school activities rather than solely on the basis of age. Obviously there are logistical limitations placed on such groupings, but the children generally progressed at their own rate through the major cognitive areas. A continuous effort was made to evaluate each individual child's needs in order to make the non-graded groupings work. At the beginning of the year a series of instruments were administered to all project children. These instruments were used both for program evaluation and for providing the teachers with information on individual children. (The tests will be discussed more fully in the research sense below in the evaluation section). The tests administered by the central staff provided the following individual data:

1. The Adapted Monroe Oral Language Scale

    a. willingness to communicate
    b. quality of ideas
    c. ability to define words
    d. sentence structure

2. The S.M.S.G. Individual Math Inventory

    a. object recognition
    b. photo recognition
    c. vocabulary
    d. object memory
    e. photo memory
    f. matching colors
    g. naming colors
    h. identifying colors
    i. matching shapes
    j. naming shapes
    k. identifying shapes
    l. equivalent sets
    m. counting buttons
    n. counting sets
    o. rote cardinal numbers
    p. rote counting by tens
    q. recognition of number symbols
    r. identification of number symbols
    s. marking number symbols
    t. naming place value
    u. forming place value
    v. ordinal numbers
    w. triangles
    x. circles
    y. ordering and classifying

3. The Metropolitan Achievement Tests

    a. word knowledge
    b. word discrimination
    c. reading
    d. arithmetic skills

4. The California Test of Mental Maturity

    a. language I.Q.
    b. non-language I.Q.
    c. total I.Q.

In addition to these measures, the Project Coordinator administered individual tests requested by the teachers. The initial information on each child, along with the teachers' continuing evaluation, provided the basis for grouping children for various activities. There was a consistent effort to encourage the teachers to identify conceptual stages of growth in their children so that they could guide the child through one stage while preparing him for the next more difficult one.

The major substantive foci of the educational program were language arts and mathematics. The language element was based on the following premises:

1. Motivation and facility in language structures and conditions what the child learns and how he learns, and also sets the limits within which future learning can take place.

2. To use language to express logic is an outcome of activity and experiences, combined with language during and following the experience.

3. Oral language facility and motivation and awareness of the relationships between talk and print, are developmental abilities essential to the successful learning of reading and writing, and concurrently reinforcing activities in the progress of these skills.

Accordingly, the school environment was made rich in physical and climatic resources for interaction. In order to provide each child with opportunities to manipulate objects and materials, and thus to learn to use language in settings appropriate to his age and stage of development, the teachers attempted to equip the classrooms with many fascinating and intriguing materials that invited selection and manipulation: water, soap suds, clay, finger paint, paper, wood, scrap materials, blocks, furniture, dishes, boxes, boards, and buckets. Materials to touch, look at, and smell permitted continued investigation and elicited response.

The classroom climate likewise was a free one encouraging experience and expression. The arrangement of desks and tables was a flexible and changing one; teachers initiated and supported verbal interaction among the group. Time-blocks were devoted each day to work in language arts. The groups for these sessions were selected on the basis of each child's level of functioning in that area. The attempt was to group learning mates, rather than age mates. The aim was flexible grouping and regrouping based on the teaching team's continuous assessments and evaluation of the changes in behavior observed as a result of the activities provided. As they worked, the teachers and other staff developed their own projected stages of development and day-to-day assessment techniques, employing them with awareness of individual needs and encouragement of individual expression. The specific developmental program created by the Rural School staff appears in Appendix A.

The math program was based on the following premise: mathematical ideas develop slowly and can be developed and understood most easily through activities that call for thoughtful manipulation of concrete objects and those activities that make children aware of mathematics in their everyday lives, The classroom climate and resources indicated above are likewise conducive to development in this area. As in the language program, the content of the child's own experiences and interest becomes the first content of the math program. The teacher stimulated the children to discuss ideas, plan, gather information, ask questions, and make comments. The same procedure of time-blocks for math sessions was used. The teacher encouraged interaction in these time-blocks by assigning small groups to work together on independent activities while she worked with another small group, by encouraging children who understood a particular concept to help others, and by permitting quiet conversation while working on independent tasks. The specific math developmental program created by the Rural School staff and consultants appears in Appendix B.

Along with the language arts and math time-blocks there was a third major element in the curriculum--the selection or manipulation time-block. During this session each day the child was able to select any of a number of activities in which he wanted to participate. Thus, the children formed their own groups on an interest basis. The teacher made herself available for talking with the children and raising questions. The activities varied widely in content but were constructive, consistent with the program and utilized learning resources.

As can be seen, the educational program subscribes heavily to the principle that the active teacher is the critical factor in the educational process. There was no imposition of a formula for success which the staff had to simply administer. The teacher was called upon to be directly involved in the formulation of every aspect of her children's education. One of the major functions of the central staff was to help her with this task.

Teacher Development. The direction and support provided to the teachers took several forms. The administration and analysis of the formal testing instruments was done by the central staff. The Project Coordinator worked with the teachers individually and in group sessions in the interpretation and utilization of this information. It was hoped that an interest and knowledge in tests and measurements could be developed to the degree that teachers would be able to use formal testing not bounded by the traditional grade equivalent and percentile interpretations. The value of such testing for the teachers was for the diagnosis of individual needs and the consequent curriculum prescriptions.

The second major support was the regular provision of highly qualified curriculum consultants and release time for the teachers to work with them. Both consultants were from universities in nearby metropolitan areas; one provided expertise in language arts, the other in mathematics. Both were enthusiastic about diagnostic, individualized teaching. These consultants each visited the Rural School at least once or twice a month and worked with the staff individually and as a team. The primary function of these sessions was to discuss the procedures being developed and used in the context of the project philosphy. The teachers were guided in the assessment of individual functioning and needs and the provision of appropriate activities and resources. Individual problems and experiences were discussed with an attempt to maximize interaction among the teachers and consultants. The atmosphere was one of working together. The consultants were valuable resources for the teachers in their own development, not expositors of a packaged program.

The Rural School principal also took a very active role in the project. He maintained a daily contact with the teachers and children to help with problems and encouraged group sessions with the teachers and himself to keep communication among the staff and assure mutual benefit from each person's experience.

Agency Coordination. No efforts of this kind were made at the Rural School.

Parent Program. Another critical conceptual element was the involvement of parents. This has the potential effect of shaping their own lives as well as the environment of their children. In the Rural School, distance between families presented an ongoing problem in getting people together or in having people come into the school. The role of social worker was handled on a part-time basis by one of the program's teachers.

The parent education phase of the Rural School program went into operation in September of the school year with a general meeting of all parents of children in the program. The relaxed atmosphere and discussion-type format gave parents an ideal chance to become acquainted and to ask questions. The nongraded program was discussed along with ways to enhance the child's home learning experience. Pamphlets on home teaching techniques were distributed. Of the parents attending, about half volunteered to help in the classroom. Tentative schedules were drawn up, but an "open door policy" was extended to all parents. Subsequent group meetings took place at the school.

Other general meetings followed in later months. One of the most successful being an explanation of the program at a P.T.A. meeting where each of the team teachers spoke on a different aspect of the program, answered questions posed by skeptical parents, and generally promoted favorable public relations.

Thirty-five individual families were visited at home by the social worker where needs that could be met by the school for the child and his family were discussed. Telephone and personal school contacts were also made.

Program Establishment. This being the final year for the Preschool and Primary Education Project under the sponsorship of the Ford Foundation and the Commonwealth of Pennsylvania, it was especially important to insure that the program could function in the future according to the wishes of the local school district. The first part of this effort was to contact various federal, state, and local agencies to obtain supplemental funds. Over the years each local district had assumed more and more of the project's operating costs, but in depressed rural areas the inadequate tax base caused a real problem.

The second effort was to get the staff to the point of development where they could operate and continue to grow on their own if outside resources could no longer be marshalled. To this end, during the summer following the school year, the Rural School staff met daily for a week with each of the two consultants. During these sessions the programming for next year was worked out, individual problems were dealt with, and the consultants attempted to give the knowledge and confidence needed to function in the future. These efforts insured that the program could continue on an adequate basis as long as the Rural School desired. The Rural School principal also took an active role in informing the rest of his faculty about the preschool and primary program so they could better work with its graduates. Other teachers made visits to the classrooms on an individual basis.

THE URBAN SCHOOL

In terms of physical location, the urban component would more properly be called "suburban," however, its major characteristics of poverty have resulted in the designation of "urban," which will be used for identification purposes.

The Urban School served a large, contained, poor community in the midst of the middle-class environs of the eastern metropolis of this state. The housing development is of the post-war veteran's vintage and is uniform in its lack of physical attention during the intervening years. The units are all owned and rented by a single enterprise. The area is approximately 95 percent White, and 5 percent non-White. Fifty-seven percent of the families have lived at their present address for more than two years. This community in summary is a poor, crowded, mobile one.

The Urban School is located right in the community and serves as a neighborhood elementary school. The project enrolled 350 children with a staff of 12 teachers and 8 aides. Ten percent of the families had a yearly income of less than $3000, and an additional 30 percent an income of less than $4000. There were 31 percent of the families receiving public assistance, and 23 percent of the mothers were working. Approximately 70 percent of the parents had not completed high school. The size of the families was found to be relatively large, 45 percent of the families had three to five children, and 39 percent had six or more. Chronic physical or mental disease effected 26 percent of the parents.

Educational Program. In the Rural School, children from Kindergarten to Third Grade age levels were directly involved with the project, whereas the Urban School directly involved children from First to Third Grade age levels. Direct involvement refers to project financial responsibility. Some of these children have been with the project since they were of nursery age, others entered the program at various points along the way. Since the original intent of this project was to shift the focus of attention from the preschool to the primary levels, the final year is most concerned with the primary program. The major responsibility for the preschool elements lies with the schools themselves. There has been a continuous effort, of course, to maximize the overlap and maintain continuity regardless of the fiscal distinctions which can be drawn. Thus, progress at all levels was observed and resources were extended as much as possible across the preschool and primary continuum.

The Urban School has become completely involved in the experimental program. Children are enrolled in the Nursery and continue through the Third Grade, after which they are transported to other schools. The preschool sections are funded by the district and the federal government. In addition to the principal and two social workers the Urban School has a full-time project director who initiates and coordinates the activities. Thus, the Urban School is a much larger and more complete operation.

The educational program was very similar to that of the Rural School. It was based on the elements of diagnostic teaching, individualized programming, time-blocks, an enriched and supportive environment, nongraded procedures, and team teaching. These elements were described in the educational program section on the Rural School. The larger staff and facilities allowed more individualization, but the guiding principles are the same. The preschool elements, which grew out of this project over the years were entirely consistent with the philosophy and methodology, though no longer the responsibility of the central staff. In this report the analytical emphasis will be on the primary children, but the preschool sections will be a parallel consideration.

Teacher Development. In the Urban School, as in the Rural School, the central staff administered and processed a series of pupil tests. The results of these tests, which were made available to the school staff, served two functions; first, they provided research information to the central staff about the pupils both individually and collectively, and second, they provided a diagnostic teaching resource for the school staff in their efforts to individualize instruction.

Two university consultants were also provided to the Urban School on a regular basis; one, the math specialist who also served the Rural School, the other, an early childhood specialist who focused on evaluation and staff coordination. The content and procedure of their consultation was similar to that in the Rural School.

Additional consultation was provided by the resident project director who frequently worked with the teachers both individually and in groups. Since the Urban School was an organization incorporating a number of preschool and primary units, this daily communication and coordination was an essential element of the program.

Agency Coordination. The Urban School conducted an active program in the involvement of other agencies with the total program of the project children. A full-time social worker was provided for the school staff by the State Department of Public Welfare. The resident project director also had a background in social work and explored every possibility of coordinated activities between the school and health and welfare agencies. In addition, the Urban School actively extended invitations to other educational agencies to become involved with the program.

Parent Program. Because of the expressed desire to involve parents in a program which would acquaint them with the educational needs of their children as well as a program designed to focus on problems relevant to the parents, an active parent education program was conducted at the Urban School. The objectives of this program were as follows:

1. To provide the opportunities and means for parents to develop for themselves a parent education program that was satisfying and productive for them.

2. To enable the parents to find a variety of ways for them to make a contribution to the program through involvement.

3. To improve the parents' concept of themselves in the parent role presuming that, as a result, the relationship between the parent and child will be strengthened.

4. To allay parents' suspicions and mistrust of the school establishment; through development of relationships of trust it was hoped that parents would develop an interest in and support of the educational opportunities of their children.

5. To provide a direct, constructive opportunity for school staff to become well-acquainted with the families served. It was hoped that this would increase the staff's awareness of the strengths and dynamics of the family life affecting the children's development.

The procedural characteristics of this parent program were as follows:

1. The program was self-determined by the parents within the broad objectives stated above.

2. The school staff was available but were not the "leaders" of the program.

3. Space was made available in the school building even though it was already crowded.

4. Babysitting was provided free at meeting times.

5. Coffee, and often other refreshments, were available; smoking was allowed.

6. The meetings provided access to "outside" resource people in an informal setting.

7. The meetings provided opportunities for development of leadership skills from within the parent group.

8. The program provided an opportunity for a positive identification with the community.

9. The program enabled parents to observe and to participate in the educational process of their children.

10. The program was largely nonstructured.

11. Except for hard-core regulars,within a year's time there were shifts in the composition of the group, as

well as changes in the relationships between those involved in the program, i.e. between parents, between staff and parents, etc.

Program Establishment. The two major efforts in terms of insuring program establishment at the Urban School were seeking funds and support for its continuation and acquainting other schools in the district with what had been learned about the children's special needs and abilities. In pursuit of the first, the whole staff was involved in popularizing this as an ongoing program within the district. Principally, the evaluation consultant and project director worked with various district officers to assure them of the worth and product of the program, as well as resolving administrative demands and supplies. The project director further marshalled other federal, state, and local resources to support the program at various levels.

To begin the task of acquainting other teachers who have project children in the later elementary grades, the Urban School hosted a summer workshop. The objectives of the workshop were threefold.

1. To review achievements of the Preschool and Primary Education Program, and to project the significance of the findings to future years.

2. To inform other administrators and staff who have children who have gone through the Urban School program what has been learned about the characteristics and special educational needs of the project children.

3. To provide an opportunity for the teachers to understand themselves better in relation to Urban School children.

Project teachers, other school teachers, administration staff, consultants, and central staff all attended these meetings. The content of the workshop appears in Appendix C. As can be seen from the objectives, these activities functioned both to develop project teachers and to pave the way for a desired continuity between the Urban School program and the regular school program.

A third enterprise was intended to have effect in both of the above-mentioned efforts. This was the production of a graphic booklet to describe the children, program, and results of the Urban School program in a visual, as well as a verbal way. This presentation would not have the receptive audience limitations of a technical report and would be distributed widely.

V. EVALUATION

THE RURAL SCHOOL

For the evaluation section each element of the program will be treated separately as it was in the descriptive section.

Educational Program. The major techniques for evaluating the effects of the educational program were a series of achievement and aptitude tests administered and scored by the central staff in a pretest-posttest design spanning the school year. The individual measures are described below:

The Oral Language Scale (OLS)

The OLS administered was one originally devised by Marion Monroe for individual, diagnostic use by the classroom teacher. Monroe (1951) states that "a child's verbal interpretation of a picture gives the teacher the opportunity to observe several aspects of language in a single, very simple, informal test." The OLS consisted of one stimulus picture chosen by the tester to satisfy these criteria: (1) there should be two or more easily recognized characters in the picture, such as a boy, girl, baby, father, mother, or pets; (2) there should be a central activity or "story," such as playing a game, having a picnic, or baking a cake; (3) each character should be doing something different; and (4) the setting or background should be appropriate enough to indicate where the action is taking place, but should not contain so many items as to distract from the main theme.

The picture was presented individually to each child in a child-adult situation. After rapport had been established, each child was told:

> "I want you to look at this picture and tell me everything you can about the picture. What can you tell me about the picture?"

If the child hesitated to speak, the tester added, "What do you see?" The child was then allowed to verbalize as he chose and all responses were recorded verbatim on paper by the tester. After the child's first stop, the tester probed once by saying, "Is that all?" An average of five sample verbalizations were collected for each child. After the child finished verbalizing about the picture, the tester chose five words (names of objects) which had been used by the child in his replies and asked the child to tell what each one was (e.g., "What is a wagon?"). Again all responses were recorded verbatim.

Each child's response was rated by the investigator on four five-point scales corresponding to the four subtests of the OLS:

A. Quality of Ideas 1 2 3 4 5

1. Concerned with the immediate environment. Objects and events are seen as separate items, e.g., boy, girl, dog, wagon.

2. Sees a relationship between the actor and action, e.g., boy is running, dog is barking.

3. Sees descriptive qualities or characteristics, e.g., little boy, brown dog, red wagon.

4. Can see cause and effect relationships and make deductions,
e.g., little boy likes the dog, the wagon belongs to the little boy.

5. Can generalize situations and relate situations to his own experiences.
e.g., my dog is different from the boy's dog, not all dogs look like that.

B. Ability to Define Words 1 2 3 4 5

1. Cannot verbalize any definition.

2. Defines by simple repetition of word,
e.g., ball is a ball.

3. Defines by stating use or function,
e.g., to play with.

4. Defines by stating descriptive qualities,
e.g., made of rubber, it's red, it's round.

5. Defines by generalizing, classifying or giving a variant meaning of the object,
e.g., a kind of toy, where you can dance, baseballs are smaller than basketballs.

C. Willingness to Communicate 1 2 3 4 5

1. Speech is blocked and/or incomprehensible.
2. Hesitates to volunteer information.
3. Can communicate basics.
4. Discusses the subject clearly.
5. In addition to clear discussion, ability to integrate present experiences with future and past.

D. Sentence Structure 1 2 3 4 5

1. Not enough verbalizing to be rated.
2. Speaks in phrases, dependent clauses.
3. Subject-verbs-object linked with ands.
4. Uses complete simple sentences correctly punctuated.
5. Standard syntax, connection of related ideas, more complex sentences, use of dependent clauses.

The Science and Math Study Group Individual Math Inventory (SMSG)

The SMSG Inventory was also diagnostic in nature. Developed as a measure to determine placement in math ability groups, the SMSG Inventory is part of a special curriculum project for culturally disadvantaged primary school children. The test, as does the subsequent math program, emphasizes manipulable and concrete materials and relevant responses. The inventory is basically an evaluation of readiness of the children to learn mathematical concepts. The test as administered was modified somewhat for the purposes of this project and structured into twenty-five subsections. These sections were as follows:

1. Object Recognition--measuring the ability to name a series of commonly encountered objects.

2. Photo Recognition--measuring the ability to name a series of pictures of commonly encountered objects.

3. Vocabulary--measuring the knowledge of a series of words generally relevant to primary math processes.

4. Object Memory--measuring the short-term retention of tangible object configurations.

5. Picture Memory--measuring the short-term retention of pictured object configurations.

6. Matching Colors--measuring the ability to match samples of colors with other samples of the identical colors.

7. Naming Colors--measuring the knowledge of color names.

8. Identifying Colors--measuring the passive knowledge of color names by the ability to select the proper color when given the name.

9. Matching Shapes--measuring the ability to match samples of shapes with other samples of the identical shapes.

10. Naming Shapes--measuring the knowledge of shape names.

11. Identifying Shapes--measuring the passive knowledge of shape names by the ability to select the proper shape when given the name.

12. Equivalent Sets--measuring the ability to construct with blocks sets of the same content as those presented on a series of cards.

13. Counting Buttons--measuring the ability to count series of buttons.

14. Counting Sets--measuring the ability to count the members of series of sets.

15. Rote Cardinal Numbers--measuring the knowledge of the sequence of cardinal numbers from 1 to 100.

16. Rote Counting by Tens--measuring the ability to count by tens from 10 to 200.

17. Recognition of Number Symbols--measuring the knowledge of number symbol names selected from 1 to 100.

18. Identification of Number Symbols--measuring the passive knowledge of number symbol names by the ability to select the proper number when given the name.

19. Marking Number Symbols--measuring the ability to write numbers selected from 1 to 100.

20. Naming Place Value--measuring the ability to name the number value of sets of objects composed of sets of tens and ones.

21. Forming Place Value--measuring the ability to form specified sets from given sets of tens and ones.

22. Ordinal Numbers--measuring the ability to indicate the correct block in a series given its ordinal position.

23. Triangles--measuring the ability to select the triangles from a display of shapes and order them from smallest to largest.

24. Circles--measuring the ability to select the yellow circles from a display of shapes and order them from smallest to largest.

25. Ordering and Classifying--measuring the ability to separate a display of shapes into categories by shape and identify the smallest numbers of each shape category.

These sections vary in difficulty primarily on the dimensions of knowledge--ability, passive knowledge--active knowledge, and concrete--abstract.

Three testers administered sections of the inventory individually to each child. After the raw score totals for each subtest were recorded, all were converted to a four-point system for purposes of evaluation. Since there were twenty-five subtests in all, a perfect score would be 100.

The Metropolitan Achievement Test (MAT)

The Metropolitan Achievement Test consisted of four subtests--word knowledge, word discrimination, reading, and arithmetic skills. Some of the uses of the MAT's results as suggested in the manual are: (1) to determine the planning instruction best adapted to the pupil's needs, and (2) to compare present achievement with past achievement in order to determine and evaluate rate of progress. The MAT was administered to groups of fifteen subjects by one tester, aided by one other adult as proctor. The manual was followed verbatim for actual testing procedures. Scoring by trained personnel yielded raw scores and grade-equivalent scores for the four subtests and total.

The California Test of Mental Maturity (CTMM)

The CTMM is a group intelligence test designed to provide information about the functional capacities that are basic to learning, problem solving, and responding to new situations. The CTMM was administered to groups of fifteen subjects by one tester, aided by one other adult as a proctor. The manual was followed verbatim for actual testing procedures. Scoring by trained personnel yielded raw scores and IQ equivalents for language, nonlanguage and total IQ.

The OLS, SMSG, MAT and CTMM were administered to all children at the primary level.[1] Pretest-posttest differences were tested for significance via the correlated "t" test procedure.[2]

On the OLS only two subtests, Ability to Define Words, and Sentence Structure, showed significant improvement (see Table 1). For analysis of the SMSG, subtests 1, 2, 3, 5, 6, 7, 8, 9, 13, 14, 23, and 24 were eliminated from consideration due to perfect performance on the pretest. Of the 13 remaining subtests nonsignificant gains were exhibited on only two: the total score gains for all subtests were significant (see Table 3). Likewise, all pretest-posttest gains on the CTMM were significant (see Table 4).

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[1] For this testing as in all that is reported below total N may vary between tests and may differ with the total number of children in the project. This is due to attrition occurring between testing sessions and absences during either the pretest or posttest period.

[2] When the word "significance" appears in this discussion, unless qualified it means statistically significant at least beyond the 5 percent level of probability ($p < .05$) on a one-tailed test. Specific significant levels are indicated on each tabular presentation.

The OLS and the CTMM were also administered to all children at the preprimary level. Total score gains on the OLS, as well as subtest score gains with the exception of Quality of Ideas, were statistically significant (see Table 5). On the CTMM, nonlanguage and total IQ gains were significant (see Table 6).

Since there was no control group with which to make comparison, analysis of the data was accomplished with pretest-posttest comparisons. The correlated "t" procedure, also known as the "t" test for paired data, was used to make this comparison. The pretest and posttest scores on the same individual constituted the pairing. Reliability of the instruments with this particular population--an essential element for comparison--was established with a sample and reported as the test-retest correlation in Appendix G, page 154.

TABLE 1

RURAL SCHOOL

ANALYSIS OF PRIMARY ORAL LANGUAGE SCALE

Subtest	Pretest Mean	Posttest Mean	Pretest SD	Posttest SD	t Ratio
1. Quality of Ideas	2.71	2.46	1.25	0.80	-1.29 N.S.
2. Ability to Define Words	3.19	3.71	0.88	0.66	3.61 **
3. Willingness to Communicate	3.37	3.42	0.83	0.60	0.48 N.S.
4. Sentence Structure	3.94	4.29	0.89	0.60	2.53 **
Total Score	13.21	13.77	3.13	1.98	1.30 N.S.

The significance tests was a "t" test for correlated data performed on the pretest and posttest scores of all subjects (n = 52; $*p < .05$, 1.64; $**p < .01$, 2.33).

TABLE 2

RURAL SCHOOL

ANALYSIS OF PRIMARY SMSG MATH INVENTORY

Subtest	Pretest Mean	Posttest Mean	Pretest SD	Posttest SD	t Ratio
4. Object Memory	3.71	3.58	0.60	0.74	-1.02 N.S.
10. Naming Shapes	3.29	3.75	0.86	0.61	4.02 **
11. Identifying Shapes	3.69	3.96	0.75	0.27	2.70 **
12. Equivalent Sets	3.67	3.85	0.96	0.63	1.18 N.S.
15. Rote Cardinal Numbers	3.31	3.65	1.14	0.92	2.98 **
16. Rote Counting by Tens	2.12	2.94	1.05	1.28	5.72 **
17. Recognition of Number Symbols	3.40	3.69	1.00	0.80	2.60 **
18. Identification of Number Symbols	3.02	3.79	1.20	0.60	5.15 **
19. Marking Number Symbols	3.31	3.63	1.25	0.86	2.26 **
20. Naming Place Value	1.19	3.08	1.53	1.48	8.11 **
21. Forming Place Value	1.15	3.00	1.61	1.52	8.01 **
22. Ordinal Numbers	3.33	3.90	1.56	0.45	4.17 **
25. Ordering and Classifying	3.52	3.29	0.93	1.43	0.96 N.S.
Total Score	86.50	92.79	9.43	8.07	8.93 **

The significance test was a "t" test for correlated data performed on the pretest and posttest scores of all subjects ($n = 52$; $*p < .05$, 1.64; $**p < .01$, 2.33).

TABLE 3

RURAL SCHOOL

ANALYSIS OF PRIMARY METROPOLITAN ACHIEVEMENT TEST

Subtest	Pretest Mean	Posttest Mean	Pretest SD	Posttest SD	t Ratio
1. Word Knowledge	1.46	2.09	.48	.62	9.69 **
2. Word Discrimination	1.48	2.10	.50	.74	7.12 **
3. Reading	1.49	2.05	.27	.78	5.93 **
4. Arithmetic Skills	1.61	2.05	.63	.74	6.65 **

The significance test was a "t" test for correlated data performed on the pretest and posttest scores of all subjects (n = 51; *$p < .05$, 1.64; **$p < .01$, 2.33)

TABLE 4

RURAL SCHOOL

ANALYSIS OF PRIMARY CALIFORNIA TEST OF MENTAL MATURITY

Subtest	Pretest Mean	Posttest Mean	Pretest SD	Posttest SD	t Ratio
1. Language I.Q.	93.75	100.88	22.58	19.47	3.02 **
2. Non-Language I.Q.	95.82	102.63	19.09	21.29	2.83 **
Total I.Q.	94.27	102.08	22.47	20.99	3.62 **

The significance test was a "t" test for correlatated data performed on the pretest and posttest scores of all subjects (n = 51; *p $<$.05, 1.64; **p $<$.01, 2.33).

TABLE 5

RURAL SCHOOL

ANALYSIS OF PREPRIMARY ORAL LANGUAGE SCALE

Subtest	Pretest Mean	Posttest Mean	t Ratio
1. Quality of Ideas	2.23	2.26	0.05 N.S.
2. Ability to Define Words	2.45	3.19	3.37 **
3. Willingness to Communicate	2.55	3.10	2.25 *
4. Sentence Structure	3.52	4.07	2.42 *
Total Score	10.80	12.60	2.69 **

The significance test was a "t" test for correlated data performed on the pretest and posttest scores of all subjects (n = 30; *p $<$.05, 1.70; **p $<$.01, 2.46).

TABLE 6

RURAL SCHOOL

ANALYSIS OF PREPRIMARY CALIFORNIA TEST OF MENTAL MATURITY

Subtest	Pretest Mean	Posttest Mean	t Ratio
1. Language I.Q.	93.50	98.11	1.36 N. S.
2. Non-Language I.Q.	97.07	102.00	2.11 *
Total I. Q.	93.68	100.25	2.45 *

The significance test was a "t" test for correlated data performed on the pretest and posttest scores of all subjects (n = 28; $*p < .05$, 1.70; $**p < .01$, 2.47).

In summary, the cognitive gains exhibited by the Rural School children were consistent and generally significant. On many measures the size of the gains would argue also for their being practically significant and a demonstration of better educational preparation for the children involved. Staff evaluations of program effect will be presented in subsequent sections.

Teacher Development. Formal evaluation of teacher development was accomplished via a questionnaire, "The Teacher and the Disadvantaged Child: An Inventory of Knowledge and Beliefs," developed by the Harrisburg City Schools and Pennsylvania State University. This inventory consisted of 70 multiple-choice items dealing with the education of culturally disadvantaged children. Each item was followed by four responses, any number of which could be correct. The correctness or incorrectness of each answer was determined by a panel of experts from the fields of education, psychology, and sociology. These expert opinions resulted in a total of 134 of the 280 possible answers being judged correct. The Inventory was administered to the project teachers at the beginning and end of the school year by the Project Coordinator. In each testing session the teachers were asked to complete the Inventory twice: once answering as they thought experts would, and then answering as they personally believed. The authors of the questionnaire reasoned that the first response was indicative of knowledge, and the second response was indicative of the degree of acceptance of knowledge, and hence a measure of attitude. Pretest and posttest scores were analyzed using the correlated "t" procedure:

	n	Pretest Mean	Posttest Mean	t Ratio
Expert Beliefs	4	44	86	5.45 **
Personal Beliefs	4	53	82	2.69 *

In both cases pretest--posttest gains were large and significant (Expert $p < .01$, Personal $p < .05$). When differences between Expert Belief scores and Personal Belief scores were tested, neither the pretest pairs or posttest paired scores were found to be significantly different (pretest "t" = 1.58 N.S., posttest "t" = -.67 N.S.). Since the number of scores tested was so small, any lengthy statistical inference is not warranted. It would seem, however, that over the course of the year the teachers became more knowledgeable about the education of culturally deprived children as seen by experts.

A second method of evaluation was a very informal one of soliciting the teachers opinions. The written replies to this request are found in Appendix D. These replies concern the project as a whole and thus are also evaluative of the other aspects of the program. In general, it can be said that the teachers have viewed the project experience as a developmental one in that they feel more confident in their efforts and more successful in their task.

The final evaluation is one of product. A review of the programs presented in Appendices A and B will attest to the teachers' development in curriculum design. For an evaluation of their primary product--educated children--one must await the test of time, but, as best as can be determined in the short run, the results are exemplary.

Agency Coordination. Since no specific efforts were directed toward agency coordination, there will be no evaluative statements. It might be mentioned, however, that the relative isolation of rural areas directly limits the non-school resources which could properly be employed for the well-being of the child. This presents a real problem for the rural schools, and should be a focus of local, state, and national concern.

Parent Program. Since no direct measures were practical in assessing the value of the parent program, the nature and extent of participation will be used as an index of effectiveness. An extensive parent program was made difficult at the Rural School because of the physical distances involved, and the fact that there was no full-time social worker on the school staff. One of the teachers served admirably in the social worker capacity on an extra-assignment basis. Given the circumstances, the parents were reached with a degree of success. The parent volunteers were faithful in their attendance and proved interested in, and helpful to, the program by telling group stories, helping in the cafeteria, giving individual attention to students, and telling other parents of their activities with the school.

Besides aiding in the classroom, parents were asked, and often volunteered, to help with the Halloween, Christmas, Valentine's Day, and birthday parties where they organized the children for games and programs. The most interested, but at one time the most skeptical of the parents organized a luncheon to which the teachers and principal were invited. This was held in May at the parent's home and was one of the highlights of the year. The parents felt great pride and a sense of accomplishment about their work. Thus, it seemed that the parents were involved in school affairs. In order to further this, next year the rationale, content, and results of the program will be explained to the parents in verbal and written form. Since many questions have been asked this year by individual parents, the interest level may be sufficiently high to get them involved in the curriculum during following years. The report card system has also been revised to make the device more meaningful by giving information about functional levels and rate of progress, rather than the traditional judgemental glyphs.

Program Establishment. The major efforts in this direction were to insure that the program would have the financial backing to continue, and that the staff would be at a level of development where they could conduct a progressing program.

With regard to financial continuation, the school district has decided to support the project with its allocation of federal funds and to expand it into other areas of the system.

The latter concern was discussed in the previous section and can be summarized with the statement from one of the consultants to the Rural School: "The team at McClellandtown has, in my opinion, demonstrated exceptional skill in operating as a team in planning, grouping children, evaluating pupil progress, setting objectives, and in making use of the total resources available to the team. Mr. Guappone [the principal] has contributed enormously to the success of this team by joining me in observations and team meetings and, more importantly, by supporting and guiding the team while providing the team teachers with an extraordinary latitude for decisions that affect the team. The four teachers have grown more in six months than most graduate students I have worked with do in an internship program or in a master's program for experienced teachers. They began with positive attitudes toward the children and a realistic set of expectations for the children but a lack of structured educational principles and a shortage of educational techniques. Of course, the children brought with them an environmental deficit that is appalling. In these circumstances the gains made by almost all children is heartening."

THE URBAN SCHOOL

Being near a large city, the Urban School had an environment and resources different from the Rural School. Putting the same type of program into this setting produced results as described below.

Educational Program. Again, the major techniques for evaluating the effects of the educational program were a series of achievement and aptitude tests, administered and scored by the central staff, in a pretest-posttest design spanning the school year. In addition to the Oral Language Scale, the SMSG Math Inventory, the Metropolitan Achievement Test, and the California Test of Mental Maturity described above, the following measures were also employed in the Urban School:

The Metropolitan Readiness Test (MRT)

The Metropolitan Readiness Test consists of six subtests--word meaning, listening, matching, alphabet, numbers, and copying. The MRT was devised to measure the extent to which school beginners have developed the several skills and abilities that contribute to readiness for first-grade instruction. It has been suggested by the authors of the MRT, that its results may be used (1) to obtain a quick indication of the readiness of each pupil to do first grade work, especially with reference to the learning of reading and arithmetic; (2) as an objective, reliable basis for initial grouping of pupils for instructional purposes; to adapt instruction to the level of the class and of subgroups that may be organized; and (3) to determine (later) whether pupils have progressed in accordance with their readiness or aptitude, by comparing readiness test results with achievement test results or teacher grades at the end of the year. The MRT was administered to groups of fifteen subjects by one tester, aided by one other adult as proctor. The manual was followed verbatim for actual testing procedures. Scoring by trained personnel yielded raw scores and grade equivalent scores for the six subtests and total.

The Preschool Inventory (PSI)

The PSI consists of four subtests--Personal-Social Responsiveness, Associative Vocabulary, Concept Activation (Numerical), and Concept Activation (Sensory). The PSI was designed to measure preschool children on a wide range of tasks relevant to school functioning and progress. This recently developed instrument has shown both usefulness in diagnosis and accuracy for research. The PSI was administered individually to each child by the central staff testing team. Prescribed procedures were followed. Scoring yielded raw scores for each subtest and total.

The Slosson Intelligence Test (SIT)

The SIT is a short-form individual intelligence measure. It is fairly recent in origin, yields one total score, and has shown impressive correlations with the Stanford-Binet LM (.90 - .98), as well as high test-retest reliability (.97). The SIT was administered individually to each child by the testing team. Prescribed procedures were followed.

The OLS, SMSG, MAT, and CTMM were administered to all children at the primary level. Pretest-posttest differences were tested for significance via the correlated "t" test procedure.

In the OLS only one subtest, Sentence Structure, showed significant improvement (see Table 7). For analysis of the SMSG, subtests 1, 2, 5, 6, 7, 8, 9, 13, 14, 23, and 24 were eliminated from consideration because of perfect performance on the pretest. Of the 14 remaining subtests, nonsignificant gains were found on only four, the ten remaining subtest scores showed significant improvement (see Table 8). All MAT pretest-posttest gains were significant (see Table 9). Total IQ improvement measured by the CTMM was also found to be significant (see Table 10).

The Oral Language Scale, the Metropolitan Readiness Test, the Preschool Inventory, and the Slosson Intelligence Test were also administered to children at the preprimary level. On the OLS, all subtest and total scores evidenced significant pretest-posttest improvement (see Table 11). The MRT subtest, with the exception of Word Meaning, and the total scores showed significant gains (see Table 12). On the PSI, likewise, all subtest and total score gains were significant, as was improvement on the SIT (see Table 13 and Table 14).

Thus, cognitive gains exhibited by the Urban School children were also found to be consistent and generally significant.

TABLE 7

URBAN SCHOOL

ANALYSIS OF PRIMARY ORAL LANGUAGE SCALE

Subtest	Pretest Mean	Posttest Mean	Pretest SD	Posttest SD	t Ratio
1. Quality of Ideas	2.63	2.74	1.04	0.80	0.74 N.S.
2. Ability to Define Words	3.20	3.09	0.74	0.61	-0.97 N.S.
3. Willingness to Communicate	3.20	3.17	0.84	0.71	-0.25 N.S.
4. Sentence Structure	3.76	4.09	0.87	0.65	2.61 **
Total Score	12.79	13.09	2.90	2.27	0.79 N.S.

The significance test was a "t" test for correlated data performed on the pretest and posttest scores of all subjects (n = 80; $*p < .05$, 1.65; $**p < .01$, 2.33).

TABLE 8

URBAN SCHOOL

ANALYSIS OF PRIMARY SMSG MATH INVENTORY

Subtest	Pretest Mean	Posttest Mean	Pretest SD	Posttest SD	t Ratio
3. Vocabulary	3.89	3.99	0.35	0.11	2.38 **
4. Object Memory	3.40	3.35	0.82	0.85	-0.39 N.S.
10. Naming Shapes	2.76	3.39	1.06	0.83	5.40 **
11. Identifying Shapes	3.54	3.69	0.82	0.72	1.26 N.S.
12. Equivalent Sets	3.66	3.72	0.95	0.74	0.50 N.S.
15. Rote Cardinal Numbers	2.18	3.11	1.16	1.18	6.33 **
16. Rote Counting By Tens	1.41	2.13	1.03	1.19	5.65 **
17. Recognition of Number Symbols	2.54	3.54	1.21	0.74	8.67 **
18. Identification of Number Symbols	2.99	3.68	1.27	0.70	5.43 **
19. Marking Number Symbols	1.88	3.31	1.26	1.03	9.67 **
20. Naming Place Value	1.15	2.51	1.55	1.66	7.81 **
21. Forming Place Value	1.06	2.31	1.41	1.74	6.75 **
22. Ordinal Numbers	2.95	3.44	1.24	0.99	4.13 **
25. Ordering and Classifying	3.29	3.56	1.30	1.11	1.52 N.S.
Total Score	79.68	87.41	10.47	13.71	6.43 **

The significance test was a "t" test for correlated data performed on the pretest and posttest scores of all subjects (n = 80; *p <.05, 1.64; **p< .01, 2.33).

TABLE 9

URBAN SCHOOL

ANALYSIS OF PRIMARY
METROPOLITAN ACHIEVEMENT TEST

Subtest	Pretest Mean	Posttest Mean	Pretest SD	Posttest SD	t Ratio
1. Word Knowledge	1.39	1.74	.19	.22	5.11 **
2. Word Discrimination	1.34	1.94	.17	.37	5.67 **
3. Reading	1.24	1.53	.20	.24	3.86 **
4. Arithmetic Skills	1.22	1.70	.24	.41	6.04 **

The significance test was a "t" test for correlated data performed on the pretest and posttest scores of all subjects (n = 14; *$p < .05$, 1.77; **$p < .01$, 2.65).

TABLE 10

URBAN SCHOOL

ANALYSIS OF PRIMARY
CALIFORNIA TEST OF MENTAL MATURITY

Subtest	Pretest Mean	Posttest Mean	Pretest SD	Posttest SD	t Ratio
1. Language I.Q.	92.54	96.00	17.49	18.51	1.44 N.S.
2. Non-Language I.Q.	97.43	99.25	18.02	20.47	0.66 N.S.
Total I.Q.	94.92	98.44	16.55	18.19	1.85 *

The significance test was a "t" test for correlated data performed on the pretest and posttest scores of all subjects (n = 61; *p $<$.05, 1.65; **p $<$.01, 2.33).

TABLE 11

URBAN SCHOOL

ANALYSIS OF PREPRIMARY ORAL LANGUAGE SCALE

Subtest	Pretest Mean	Posttest Mean	t Ratio
1. Quality of Ideas	2.43	3.09	2.43 *
2. Ability to Define Words	2.87	3.74	5.19 **
3. Willingness to Communicate	2.39	3.78	6.45 **
4. Sentence Structure	3.83	4.65	17.45 **
Total Score	11.57	15.26	6.79 **

The significance test was a "t" test for correlated data performed on the pretest and posttest scores of all subjects (n = 23; *p $<$.05, 1.72; **p $<$.01, 2.51).

TABLE 12

URBAN SCHOOL

ANALYSIS OF PREPRIMARY METROPOLITAN READINESS TEST

Subtest	Pretest Mean	Posttest Mean	Pretest SD	Posttest SD	t Ratio
1. Word Meaning	6.89	7.19	2.35	2.58	0.45 N.S.
2. Listening	8.11	10.19	3.81	3.24	2.38 *
3. Matching	7.11	9.89	4.02	4.02	2.78 **
4. Alphabet	6.00	12.41	4.56	4.59	5.76 **
5. Numbers	9.81	14.26	5.93	4.99	4.53 **
6. Copying	6.26	10.15	4.08	4.42	4.39 **
7. Draw-a-Man	2.52	3.78	1.20	1.20	4.86 **
Total Score	44.63	64.00	20.48	18.36	4.51 **

The significance test was a "t" test for correlated data performed on the pretest and posttest scores of all subjects (n = 27; *$p < .05$, 1.70; **$p < .01$, 2.48).

TABLE 13

URBAN SCHOOL

ANALYSIS OF PREPRIMARY PRESCHOOL INVENTORY

Subtest	Pretest Mean	Posttest Mean	t Ratio
1. Personal - Social Responsiveness	15.60	21.19	6.64 **
2. Associative Vocabulary	7.81	14.34	11.09 **
3. Concept Activation - Numerical	7.36	11.79	9.39 **
4. Concept Activation - Sensory	10.40	14.51	8.53 **
Total Score	41.11	62.17	14.42 **

The test of significance was a "t" test for correlated data performed on the pretest and posttest scores of all subjects (n = 47; *p <.05, 1.64; **p <.01, 2.33).

TABLE 14

URBAN SCHOOL

ANALYSIS OF PREPRIMARY SLOSSON INDIVIDUAL INTELLIGENCE TEST

Pretest Mean	Posttest Mean	t Ratio
101.52	109.63	4.57 **

The test of significance was a "t" test for correlated data performed on the pretest and posttest scores of all subjects (n = 27; *p <.05, 1.70; **p <.01, 2.48).

Teacher Development. Formal evaluation of teacher development was accomplished via the Inventory of Knowledge and Beliefs described in the Rural School section. The inventory was similarly administered at the beginning and end of the school year. Pretest and posttest scores were analyzed using the correlated "t" procedure:

	n	Pretest Mean	Posttest Mean	t Ratio
Expert Beliefs	5	48	91	7.17 **
Personal Beliefs	8	61	93	5.67 **

In both cases, pretest-posttest gains were large and significant (Expert and Personal p .01). When differences between Expert Belief scores and Personal Belief scores were tested for significance, it was found that the pretest scores were significantly different ($p < .01$ at 3.37, $t = 3.49$), whereas the posttest scores were not ($t = .37$ N.S.). Since on the pretest the Personal Belief mean was significantly different from the Expert Belief mean, it would seem that the teachers saw their own beliefs at variance with their conception of expert belief. Again, since the number of subjects was so small, further interpretation will not be attempted. However, as at the Rural School, it seems that the teachers improved quite a bit in knowledge of education for the culturally deprived as it has been represented by a panel of experts.

The Urban School teachers were also asked for their own written evaluation; these appear in Appendix E. As distinct from the Rural School, most of these teachers have been with the project for several years. Thus, their statements were not always confined to the program year presently reported, and the historical aspects are evident.

Agency Coordination. The Urban School has developed increasingly more meaningful and useful channels of communication with local health and welfare agencies. The presence of not only the social worker of the Department of Public Welfare, but also having a project director from the social work field, undoubtedly strengthened the possibilities for developing good coordination between the school and health and welfare agencies. At the close of the project, the project staff applied to the Department of Public Welfare for the special assignment of a department social worker to remain at the Urban School to continue to function as a coordinator of services, as well as to strengthen and extend an innovative parent education program that would dovetail with the services of the public agencies. The best way to illustrate the extent of coordination among the local institutions is to describe some of the elements of the current program.

1. The project social worker and a worker of the local board of assistance are meeting weekly with two groups of preadolescents whose families are public assistance recipients and whose chances of being school dropouts are very high.

2. The local psychiatric clinic provides direct psychiatric treatment and/or consultation in the project director's office for one morning every other week. Frequent case conferences are held with school and clinic staff to discuss joint cases.

3. Two or more case workers of the local board of assistance meet clients in the preschool office one morning each week. (This is to accommodate clients who do not have cars in an area where there is very inadequate public transportation.)

4. A local medical school is providing direct medical services to the program and exploring means for assisting in extending services locally.

5. The Family Service Association uses the project office periodically for interviewing purposes.

6. Child Welfare Department has frequent case conferences with school staff. At these staffings plans are made and implemented to work in the most efficient and direct way for the two agencies to accomplish their common objective: to give each child the best opportunity possible to thrive.

7. Representatives of local health and welfare agencies are members of the Medical Review Committee.

8. Close cooperation with the public health department on children for whom the project is jointly responsible typifies the present program. For example, the health department was willing this summer to set up a special clinic day for immunizations which are necessary for school admission.

At the Urban School the importance and time accorded the goal of agency coordination had pervasive and visible effects. In addition to the active program indicated above, it should be remembered that the preprimary program elements were largely supported through funds obtained from federal agencies. The cooperation of other educational agencies was also successfully sought. Secondary schools in the area sent students on a regular basis to work individually with the Urban School children. This served the dual purpose of providing the children a close and informal contact with a concerned adult figure and gave the "tutors" an exposure to a current, critical educational and human problem.

Parent Program. The parent program at the Urban School was also an active and successful one. Below are listed some of the typical projects which took place:

1. Good grooming lessons
2. Cooking lessons
3. Sewing lessons
4. How to make home decorations out of 'nothing'
5. Field trips (as an example of how the principle of self-determination functions for the group, the parents, not the staff, chose to visit the local prison as one of the field trips)
6. Art lessons
7. Exhibition of art at a nearby school
8. Chaperoning children's trips
9. Functioning as teachers' aides, recruiters, case aides, etc.
10. Planning, buying for, and preparing a Puerto Rican meal for the other mothers, staff, and children
11. Developing community action projects
12. Writing letters to government officials
13. Circulating petitions
14. Serving on policy advisory committee
15. Joining other pressure groups in the community

Parent acceptance of, and involvement in, the school is something that has been long sought and, upon occurring, has changed the school environment. Parents regularly and in numbers help out in the classrooms, thus providing more opportunity for individual attention and facilitating a carryover from school to home. The "open door" policy has become a reality as there are always parents around the coffee pot in the preschool office discussing problems and progress. The parents hold well attended weekly meetings and publish their own news pamphlet. They have established their own clothing and goods exchange. The parents also engaged in group activities such as a trip to Washington to talk with Congressional representatives about the problems of poverty. In all these activities the parents' initiative was sought, and they made the decisions; the school functioned as a resource agency to make the projects possible. Together with the agency coordination effort, the parent program was seen as a major step toward solution of the cultural deprivation problem and the poverty cycle.

Program Establishment. Of the three efforts in this area: continuing financial support, developing effective communication with other schools who receive project children, and producing a graphic booklet on the Urban School program, only the second has at this date come to fruition. The previously described workshop took place during the summer and gained an enthusiastic reception. A complete report and evaluation of this event appears in Appendix F. The booklet is now nearing completion and will be published this year. Its effect will be a subject for future evaluators. Regarding financial continuation, the school district and certain federal funds will maintain the bulk of the program. Efforts toward further supplementation and expansion are still under way.

VI. A CONCLUDING NOTE

The failure of our educational systems to adequately meet the needs of the "culturally disadvantaged" continues to be a major problem facing our society. The validity of preschool education as an equalizer of differential environment remains an unconcluded vital debate. Those who await science to present the answer must wait longer still, for science has yet to determine how to adequately test these things with consensus satisfaction. However, the people whose lives are being infused with our failure cannot wait anymore; for them the question is neither academic nor fiscal, it is the reality of the present and the breath of the future.

The Pennsylvania Project has tried to develop a comprehensive plan that would function to improve education in culturally disadvantaged areas. Many aspects of the environment and numerous types of resources were utilized. The educational program was emphasized because that is the medium for success. Teacher development was stressed because the quality of teaching determines the quality of learning. Parent participation was pursued because the parents create much of the child's environment, and they too have things to gain from the school.

Every avenue for involvement of other groups and agencies was investigated because they have resources that legitimately should be applied to this area and, perhaps more importantly, because general awareness of the conditions of poverty is lacking and more people applying themselves to these problems will produce more effective answers. Effort was put into the continuation of these programs after the formal conclusion of the project because a few years of remediating that which took many years to produce will not suffice.

In the perception of the project staff these programs have, over time, met with widely varying degrees of success. There have been many errors and much stumbling, but that is part of the learning process. In the last few years things began to fit together and, if increased quality and quantity of participation can be used as a measure, the programs achieved a healthy success. It can be said decisively that the children involved did not regress scholastically or remain static, but rather that they improved, often dramatically, as reflected by the measurement devices employed. This conclusion is also supported by the observations of the professional, consulting, and research persons who came into contact with the project. The Pennsylvania Project is a demonstration of what can be effectively done at this point in time. Its positive results are encouragement in the face of a difficult task; its shortcomings are the indications of the need for further study.

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APPENDICES

APPENDIX A

THE RURAL SCHOOL READING PROGRAM
(Similar to Urban School Program)

The basic philosophy of the staff of the Nongraded Program at the Rural School is that each child should progress at his own unique rate. The individual rate for each child is dependent upon his intellectual potential, his experiential background, his motivation to learn, his physical health, his emotional health, and the instructional program. The goal of the Nongraded Program is continuous progress for each child.

The instructional program in reading is based upon the acquisition of skills which are introduced and maintained at each successive level. The teachers of the Nongraded Program are also committed to develop within each child a positive attitude toward reading, independence in learning, a desire to broaden his reading interests, and elevate his reading tastes.

Cooperation between the home, the school, and the community is essential if the goals are to be realized.

SPECIFIC READING LEVELS
NONGRADED PROGRAM
THE RURAL SCHOOL

Informal Readiness		
		Miss McGill
Readiness-Level	1	
	2	
	3	
	4	Mrs. Slabaugh
Pre-primer	5	
	6	
	7	
Primer	8	
	9	
Book 1	10	
	11	Miss Helmstadter
	12	
Book 2^1	13	
	14	
	15	
Book 2^2	16	
	17	
	18	
Book 3^1	19	Miss Fronczek
	20	
	21	
Book 3^2	22	
	23	
	24	

Rapid Learner

C.A.	4	5	5-6	6	6	6-7	7	7-8	8	8	
Level	Informal Readiness	1-4	5-7	8-9	10-12	13-15	16-18	19-21	22-24	Inter-mediate	

Typical Learner

C.A.	4	5	5-6	6	6	6	7	7	8	8	8+
Level	Informal Readiness	Informal Readiness	1-4	5-7	8-9	10-12	13-15	16-18	19-21	22-24	Inter-mediate

Slow Learner

C.A.	4	5	6	6-7	7	7	7-8	8	8-9	9+	
Level	Informal Readiness	Informal Readiness	1-4	5-7	8-9	10-12	13-15	16-18	19-21	22-24	

Very Slow Learner

C.A.	4	5-6	6-7	7-8	8	8-9	9	9-10	10	10	
Level	Informal Readiness	Informal Readiness	1-4	5-7	8-9	10-12	13-15	16-18	19-21	22-24	

Special Education

SPECIFIC READING LEVELS FOR PRIMARY CYCLE

Informal Readiness

Level	1	Readiness	Unit 1	Names
	2	Readiness	Unit 2	Families and Houses
	3	Readiness	Unit 3	Our School
	4	Readiness	Unit 4	Our Neighborhood
Level	5	Preprimer	Units 1,2,3	People Read
	6	Preprimer	Units 4,5,6,7	People Read
	7	Preprimer	Units 4,5,6,7	People Read
	8	Primer	Units 1, 2	Around the City
	9	Primer	Units 3,4	Around the City
	10	Book 1	Units 1, 2	Uptown, Downtown
	11	Book 1	Unit 3	Uptown, Downtown
	12	Book 1	Unit 4	Uptown, Downtown
	13	Book 2^1	Units 1, 2	My City
	14	Book 2^1	Unit 3	My City
	15	Book 2^1	Unit 4	My City
	16	Book 2^2	Units 1, 2	Green Light, Go
	17	Book 2^2	Unit 3	Green Light, Go
	18	Book 2^2	Unit 4	Green Light, Go
	19	Book 3^1	Units 1, 2	City Sidewalks
	20	Book 3^1	Unit 3	City Sidewalks
	21	Book 3^1	Unit 4	City Sidewalks
	22	Book 3^2	Units 1, 2	Around the Corner
	23	Book 3^2	Unit 3	Around the Corner
	24	Book 3^2	Unit 4	Around the Corner

Goals for Achievement in Nongraded Primary at the Informal Readiness Level

In the Informal Readiness your child will learn to live, to work, and to play with other children of his age. Informal Readiness introduces him to school as a happy place.

Under Social, Physical and Emotional Development the following goals should be achieved:

a. Plays well with others and is a good sport.
b. Is courteous and considerate of others.
c. Accepts and respects authority.
d. Respects the rights and property of others.
e. Is dependable.
f. Takes part in informal conversation.
g. Obeys school rules.
h. Listens while others speak.
i. Enjoys work and play.
j. Knows his whole name, address and telephone number.
k. Accepts constructive criticism.
l. Claims only his share of attention.

Under Work, Health and Safety Habits the following should be achieved:

a. Listens to directions.
b. Follows directions.
c. Makes good use of time.
d. Works without disturbing others.
e. Thinks for himself and solves his own problems.
f. Does work carefully and neatly.
g. Takes good care of materials and other property.
h. Follows safety rules.
i. Uses his handkerchief properly.
j. Keeps reasonably neat and clean.
k. Rests quietly.
l. Follows routines and mechanics of daily schedule.

Under Music, Art and Physical Education the following should be achieved:

a. Takes part in all musical activities.
b. Enjoys singing.
c. Uses art materials correctly.
d. Developing in artistic expression.
e. Has good posture.
f. Responds to rhythm.

Under Informal Reading Readiness the following should be achieved:

a. He enjoys books, stories and poems.
b. He speaks clearly and accurately in a pleasant voice.
c. He is curious and interested in the world in which he lives.

d. He can participate in conversations and informal discussions.
e. He can listen while others speak.
f. He can follow simple oral directions.

Specific Reading Skills for Primary Cycle

At the following level your child should be taught to:

Level I

Match name cards
Perceive differences in lines
Listen to and recite rhymes
Identify and name objects
Explain relationships between objects and characters in a story
Point to likenesses and differences between shapes
Identify sounds made by objects, actions, and animals
Recall story sequence
Willing to listen to stories and poems
Contribute to a group dictated story with the teacher acting as scribe
Exhibit pride of authorship in his contribution to a group story
Share ideas and experiences orally with others

At the following level your child should be taught to:

Level II

Associate word forms with the names of classmates
Point out likenesses and differences in pictures
Recall story details
Describe picture action
Match pictures
Predict the outcome of a story
Name objects in right to left progression
Make lines and circles in left to right progression
Use chalk, pencils, crayons, etc. correctly
Illustrate selected detail of a story
Color recognition and naming

At the following level your child should be taught to:

Level III

Dictate one or two sentence individual stories or captions for his pictures
Recognize and complete patterns
Use labels to identify objects
Arrange picture sequences
Tell stories about pictures, explaining relationships between characters and objects

Use left to right, top to bottom, front to back progression
Name letter forms
Follow one step directions
Supply rhyming words of familiar nursery rhymes

At the following level your child should be taught to:

Level IV

Relate spoken word to written symbols
Use given clues to complete a simple sentence
Match word cards with words on charts and captions
Classify objects
Read the number words: one, two, three
Make pictorial map of classroom, building, and playground

At the following level your child should be taught to:

Level V

Follow two step directions
Identify both upper and lower case letters: m, p, h, b, g
Associate consonant sounds of m, hard g, b, and h with visual forms
Use the clues of the period, exclamation point, and quotation marks in interpreting meaning
Identify plural nouns
Read the basic sight words (28) introduced in the stories
Explain that printed symbols represent a spoken word
Demonstrate ability to read silently and orally simple text
Use guide letters in the dictionary at the preprimer level

At the following level your child should be taught to:

Level VI

Identify such symbols and signs as traffic lights, arrow, fire drill signal, and punctuation
Identify both upper and lower case "s"
Associate the initial consonant sound of "s" with its visual form
Use the pronoun he and they correctly
Use the clue of the question mark in interpreting meaning
Identify and use the rhyming endings at, all, ay
Read selected compound words

At the following level your child should be taught to:

Level VII

Use the pronouns she, it, her, and I correctly
Recognize 's as possessive
Use the word will to indicate future time
Identify both upper and lower case f
Associate the initial consonant sound of f with its visual form
Execute directions given in sequence
Read the basic sight words (87) introduced in the preprimers
Read a teacher constructed simple map of the school building

At the following level your child should be taught to:

Level VIII

Use the table of contents
Identify and use the rhyming endings it, ill, at
Follow written directions
Associate the consonant sounds of c, l, w, d, and r with visual forms
Classify words
Use words that are opposite in meaning
Use the pronouns her, his, my correctly
Use the words then, in, on, by, into correctly
Use the word endings ed and ing correctly
Increase the number of compound words he can identify
Identify both upper and lower case letters of alphabet in sequence
Explain purpose of the title of a story
Complete partially written sentences
Define words using context clues and a beginning dictionary
Use guide words in a simple dictionary
Uses alphabetical sequence to locate words in a simple dictionary
Draw a simple map of his neighborhood

At the following level your child should be taught to:

Level IX

Associate the initial consonant sounds of t, n, y, and p with their letter form
Use the words have, had, there, was, were, who, and what correctly
Use the contractions n't, 'm

- Identify root words
- Identify compound words
- Use the pronoun *him*
- Read number words through seven

At the following level your child should be taught to:

Level X

- Recognize selected final consonants *s*, *n*, *d*, *g*, *t*, *r*, *m*
- Use context to discover meaning
- Use pronouns: *he*, *she*, *they*
- Use comparative word *as*
- Use compound words with *self*
- Recognize rhyme endings: *an*, *old*, *and*
- Use place words: *on*, *in*, *by*, *over*, *under*
- Use capital letters to begin a sentence and proper names
- Read the following basic sight words: *first*, *second*, *third*, *where*, *as*, *till*, *because*, *biggest*, *when*
- Substitute the following initial consonants: *hard c*, *h*, *l*, *m*, *p*, *t*, *f*, *b*, *s*, *r*
- Sketch his bus route to school

At the following level your child should be taught to:

Level XI

- Recognize selected consonants *p*, *l*
- Substitute initial consonant *g*
- Add to words indicating opposites
- Recognize initial consonants *j*, *v*
- Recognize initial consonant blends *st*, *tr*
- Use place word: *between*
- Use pronouns: *him*, *her*, *them*, *his*, *their*
- Recognize the initial digraph: *th*
- Use words that tell what kind

At the following level your child should be taught to:

Level XII

- Recognize initial consonant blend *br*
- Make inferences, logical conclusions, appropriate judgments
- Substitute final consonants: *t*, *p*, *m*, *l*
- Recognize 240 new basic sight words
- Use contraction -*'ll*
- Polish his oral reading skills

At the following level your child should be taught to:

Level XIII

Recall a story in correct sequence
Answer specific questions regarding story's details
Distinguish between relevant and irrelevant information
Identify final s and y sounds in words
Identify syllables in words
Point out an amount designated as most
Write plural words ending in -es
Finish incomplete sentences
Identify likenesses in objects
Repeat story in proper order
Hear words starting with "pl"
Use if in original sentences correctly
Hear words beginning with "gr"
Hear syllables in compound words
Re-enact a story
Point out vowels in alphabet
Use enough in original sentences correctly
Tell main idea of story in own words
Circle pairs which are opposites and underline pairs which are the same
Tell why actions occur
Use figurative language
Identify the digraph ch, ending ly, short a, short i, and initial consonant k
Read a simple map

At the following level your child should be taught to:

Level XIV

Identify the long vowel sounds of i, a, and e
Hear syllables in 3 syllable words
Write words with endings er and est
Hear initial"sh" in words
Tell if a story is make believe
Hear initial "z" in words
Arrange sentences into proper story sequence
Write contractions ending in 'd
Give simple definition of words
Make up logical ending to a story
Use the clue of silent e in reading words
Identifies volumes of an encyclopedia according to number or alphabetical sequence
Use of guide words in encyclopedia

At the following level your child should be taught to:

Level XV

Match words to phrases meaning the same
Hear short _o_ in words
Tell how characters feel in the story
Correctly compare and contract two objects as to size, quality, weight and temperature
Distinguish a summary of a paragraph from a small part of a paragraph
Identify the sound of the initial consonant blends: _dr_, _cl_ _fl_, _bl_, _fr_
Identify the vowel digraph: _oa_
Is aware of the ways that sounds can be written down
Reorganize information gained from various resources
Give a concise report orally or in written form

At the following level your child should be taught to:

Level XVI

Part One

Use synomyns in sentences
Tell logical conclusion of a story
Hear long "u" vowel sound and unvoiced "th" consonant blend
Recall details and characters of a story
Hear initial consonant digraph: _wh_
Hear final consonant digraphs: _sh_, _ch_
Identify number of syllables in spoken words
Use the word "syllable" correctly in his speaking
Find answers from clues
Spell 4 or more pairs of homonyms
Hear the short "u" vowel and the final consonant "x"
Tell _why_ actions in story occur
Hear final consonant digraph: _ck_ and writes words ending in _ck_
Hear the suffix: y on words
Double final consonant before adding endings: _ing_, _ed_
Predict outcomes of a story
Hear final consonant blend: _ng_ and substitutes _ng_ ending other words
Choose words in same class as an example
Add word ending _es_ to words ending in _ch_ and _sh_
Tell sketch of story from pictures
Recognize map symbols

At the following level your child should be taught to:

Level XVI

Part Two

Write words ending in vowel: "y"
Hear initial consonant blend: "cr"
Hear consonant: "soft g"
Tell different meaning of same word, ex: sticks, match
Hear initial consonant blend: "sc"
Change "y" to "i" before adding "ed"
Choose correct -'d contractions (had, would)
Hear effect that "r" has when placed after vowels in a word
  ex: for, store, car, far, finger, butter, third, shirt,
  stir, fur, burn
Change "y" to "i" before adding "es"
Hear initial consonant blend: "sh"
Identify sentences having same or opposite meanings
Make judgements as to possible endings of a story and
  tells why he did
Hear dipthongs: "oy" and "oi" in words
Summarize details of story orally and in a drawing
Break sentences down into words that tell: who did what,
  where and when

Note silent vowel letters

At the following level your child should be taught to:

Level XVII

Part Three

Hear initial consonant blend: "sp"
Hear and write words containing vowel digraphs: "ay" (day)
  and "ea" (meat)
Hear and use final consonant blends: -nt and -st in words
Hear and see syllables in compound words
Hear final consonant digraph: unvoiced th in words
Use figurative language in an original oral story
Write words containing vowel digraph:-ea
Write words ending in consonant blend: -nd
Write a short play alone or with others and can dramatize
  it
Hear initial consonant blend: "qu" (quack)

At the following level your child should be taught to:

Level XVIII

Say words correctly that contain dipthong: "ou"
Write contractions ending in 've (have)
Find words containing vowel digraph: "ow" (cow) and write them independently (eow)
Hear and see syllables in two-syllable words with endings: -ing and -ly
Write and correctly pronounce words containing vowel digraphs: "oo" (good) and "oo" (food)
Retell story in own words
Recall story facts
Locate story details in text
Read a map key

At the following level your child should be taught to:

Level XIX

Use figurative language
Arrange sentences in correct order
Explain cause and effect relationships
Explain that words that end with the sound of v are written with the letters ve
Identify character traits
Point out absurdities in sentence
Identify the final consonants b, f, and z
Respond to style and mood in poetry
Identify sound for vowel digraph: au
Note silent letters in words
Identify the initial consonant blend: sl
Define the uses of the Thesaurus
Uses alphabetical sequences to locate words in a simple dictionary
Use guide words in Thesaurus

At the following level your child should be taught to:

Level XX

Identify clues for soft sound of c
Note the effect of prefixes: un, pre, trans
Locate the main ideas of a riddle

Differentiate between fact and fantasy
Identify the initial consonant blends: thr, tw, str, pr, and sk
Recognize propaganda in an advertisement, etc. on TV and newspaper
Interpret simple charts and graphic materials

At the following level your child should be taught to:

Level XXI

Interpret poetry
Explain that -ed may or may not add another syllable
Identify relevant details
Explain the sequence and results of events
Predict outcomes
Attack new words independently by using contextual and phonetic clues

At the following level your child should be taught to:

Level XXII

List the descriptive words that form sensory images
Identify and explain cause-effect relationships
Adapt techniques of word skill to unlock unknown words
Recognize the sound for the vowel digraph: ie
Use the hyphen with some compound words
Identify the initial consonant blends: gl, sw, sm, scr and spr
Identify transitional words, phrases or sentences (therefore, as a result, at the conclusion of the Civil War,------)
Identify the feelings and attitude of story characters
Explain the effectiveness of accented words in a sentence
Predict outcome through the emotional response of characters
Develop the ability to locate words in the dictionary
Distinguish between fanciful and realistic elements in a story
Use the possessive form its

At the following level your child should be taught to:

Level XXIII

Recognize the alphabetical of words according to the first two letters

Use the suffix en
Explain plot development and recall story facts
Identify consonant digraph: ph in initial and medial positions
Note the sound of the vowel digraph: ei and the consonant digraph: gh
Explain that the sound of f may be represented as f, ph and gh
Divide two syllable words between double consonants
State that the letters t and b may be silent letters
Use the initial consonant blends: spl and sk
Identify the use of alliteration, rhyme and poetry
Generalize that different letters may represent the same sound as the u or the oo
Reproduce the sound of the vowel digraph ew
Write their own stories and draw their own illustrations
Identify rhythm and form in poems

At the following level your child should be taught to:

Level XXIV

Locate words that show feelings and emotions of characters
Explain that certain letters represent the same sound -all (call), aw (crawl), and au (caught)
Identify idiomatic and figurative language
State that le at the end of a word is a clue to syllabication
Identify shr as an initial consonant blend
Reproduce the sound of the vowel digraph ey
Define the terms: fiction, non-fiction

APPENDIX B

THE RURAL SCHOOL MATH PROGRAM
(Similar to Urban School Program)

MATHEMATICS CONTENT AUTHORITY LIST: K-4
BASED ON LAIDLAW SERIES 1965 & 1968 EDITIONS

Topic I: Number Systems

A. Whole Numbers

1. Basic Concepts

0010 . . . . a. Definition: set of whole numbers

Ex. $\{0,1,2,3,4,5,6,\ldots\}$

0019 . . . . b. Developing cardinal number sense

Cardinal number expresses the manyness of a set; it tells how many elements are in a set.

Ex. $N\{a,b,c,d\} = 4$ $N\{\ \} = 0$

0020 . . . . 1) Developing cardinal number zero

Level 4,9 Draw an X on each set whose number is zero

Level 15 If Jack gave his 5 rabbits away, what numeral would show how many rabbits he had left?

0030 . . . . 2) Developing cardinal numbers one through ten

Level 1,2,3,9 If there is just one object in a set, draw a ring around the set.

Level 6 Tell which number is shown by each counting man.

Level 15 Tell how you would show each of these counts on the ones counting man: three, five, eight, and nine.

Level 21 When you count, you use the counting numbers.

0035 . . . . 3) Developing cardinal numbers beyond ten

Level 6 Write a numeral for the number shown by the counting men.

Level 10 Draw the correct number of fingers on each set of men.

Level 15 For each of the number words or numerals below, draw a set of X's to show the number named.

0040 . . . . . . c. Developing ordinal number sense

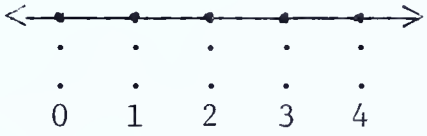
An ordinal number indicates the position of an item in a sequence of items in contrast to a cardinal number which tells how many items are in a set.

Level 2,3,15 Ex. first, second, third; 4 o'clock (indicating the hour in a sequence of hours)

0050 . . . . . . d. Associating the idea of number with the number line (one-to-one correspondence)

A one-to-one correspondence is said to exist between two sets A and B if every member of set A can be paired with a member of set B and vice-versa.

Level 2,6,21 Ex.



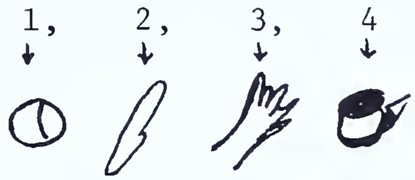
Each number on the number line corresponds to one point on the line or each number is paired with one point on the line.

0060 . . . . . . e. Counting to find cardinal number of set (one-to-one correspondence)

Cardinal number - See 0019

One-to-one correspondence - See 0050

Level 1,2,6 Ex.



0070 . . . . . . f. Ordinal counting

Ordinal number - See 0040

Level 3,9,15 Ex.

0075 . . . . g. Sequence of numbers increasing by one

Level 3,4,5, 6,21

Ex. 1,2,3,...,
14,15,16,17,...,
31,32,33,...,

0080 . . . . h. Skip counting

Level 6,8,14, 15,22

Ex. 2,4,6,8,...; 5,10,15,...; 5,8,11,14,....

0090 . . . . i. Other counting: backward, rote, etc.

Level 4,6,8, 13,14

Ex. Backward: 9,8,7,6,..., 50,40,30,....

Rote: 1,2,3,4,5, I caught a hare alive.
6,7,8,9,10 I let him go again.

0100 . . . . j. Ordering numbers as greater than, less than, equal to or not equal to, and between, and objects as fewer than or more than

Level 1,2,9, 15

Ex. $7 > 2$; $5 < 9$; $3 + 1 = 4$; $2 \times 7 \neq 15$

7 apples are more than 5 apples.

A dog has fewer eyes than legs.

2. Operations

a. Addition

1) Properties

0110 . . . . a) Addition, a binary operation

(1) A binary operation is an operation on two elements in a set to produce a third element belonging to the set.

(2) The binary operation of addition combines two numbers to obtain a unique result.

Ex. $2 + 3 = 5$

The number 2 and the number 3 are combined to obtain the number 5.

0120 . . . . b) Addition developed from union of disjoint sets or joining action

Level 1,2,4,5,
9,10,15,
16,19,21

Disjoint sets are sets which have no elements in common.

Ex. {△, ○, ▱} and {▯ ◭} are disjoint sets

{▲, ○, ▭} ∪ {▯, ◭} = {△, ○, ▭, ▯, ◭}

The union of the two disjoint sets forms a new set.

N{▲, ○, ▭} + N{▯, ◭} = N{△, ○, ▭, ▯, ◭}

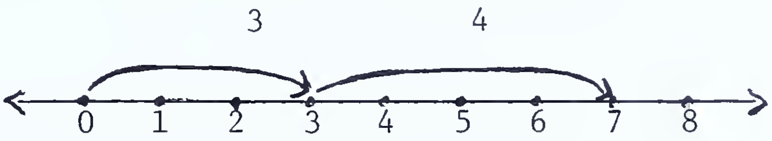
Adding the numbers of the two sets gives the number of the new set.

3 + 2 = 5 (adding the cardinal numbers of the sets).

0130 . . . . c) Addition developed from number line

Level 2,5,6,7,
10,16

Ex.



3 + 4 = 7

Note: Some authorities prefer to use straight lines rather than curved lines.

0140 . . . . d) Closure, a property of addition

A binary operation with numbers such that the resulting number is always a member of the set being considered is said to be closed under that operation.

Since for every pair of numbers in the set of whole numbers, the unique sum is also in that set, closure is a property of addition of whole numbers.

Ex. A = 1,2,3,4,...

6 + 99 = 105

6,99 and 105 are all numbers of set A

Ex. $B = 1,3,5,7...$

$3 + 5 = 8$

8 is not in set B

Closure is not a property of the addition of odd numbers.

0150 . . . . e) Commutativity, a property of addition

(1) Commutativity is another term for the commutative property.

(2) A binary operation is said to possess commutativity if the result of combining two elements is independent of the order.

(3) The commutative property is sometimes called the order property.

Level 4,15,19

Ex. The operation of addition of whole numbers possesses commutativity since

$$2 + 3 = 3 + 2 = 5$$

0160 . . . . f) Associativity, a property of addition

(1) Associativity is another name for the associative property.

(2) An operation is said to possess associativity if the result of combining three elements by this operation is independent of the way in which the elements are combined.

(3) The associative property is sometimes called the grouping property.

Level 7,8,11,15,
19,21

Ex. The operation of addition of whole numbers is associative.

$$5+2+1 = (5+2)+1 = 5+(2+1)$$

$$7 + 1 = 5 + 3$$

$$8 = 8$$

$$a + b + c = (a+b) + c = a + (b+c)$$

0170 . . . . g) Zero, the identity element in addition

The identity element in addition is the number which when added to any number leaves that number unchanged.

Level 4,5,7,10,15,21

Ex. $3 + 0 = 0 + 3 = 3$

$n + 0 = 0 + n = n$

0 is the identity element for addition.

0180 . . . . h) Role of one in addition

Level 6,9

When 1 is added to a whole number the sum is the next greater whole number.

Ex. $23 + 1 = 24$ $102 + 1 = 103$

2) Computation

a) Two addends

0190 . . . .(1) Elementary facts of addition

An elementary (basic) fact of addition has two whole number addends, each less than ten.

Level 4,5,7,10,11,
15,16,17,21

Ex. $6 + 7 = 13$

0200 . . . .(2) Multi-digits used in addition without renaming

Renaming in addition means considering ones as ones and tens, or tens as tens and hundreds, etc.

Level 8,11,13,16,17,
21,22,25

Ex.

$$\begin{array}{r} 213 \\ + \underline{142} \\ 355 \end{array}$$

No renaming is necessary. See 0210 for an example using renaming (in some texts called regrouping or carrying in addition.

0210 . . . .(3) Multi-digits used in addition with renaming

Level 11,12,13,14,16,17, 18,19,20,21,22,25, 26

Ex.

$$\begin{array}{rcrcrcr} 337 & = & 300 & + & 30 & + & 7 \\ +\underline{184} & = & \underline{100} & \underline{+} & \underline{80} & \underline{+} & \underline{4} \\ & & 400 & + & 110 & + & 11 \end{array}$$

$$400 + (100 + 10) + (10 + 1) =$$

$$(400 + 100) + (10 + 10)+1 = 521$$

The 11 ones are renamed as 1 ten and 1 one. The 11 tens are renamed as 1 hundred and 1 ten. The tens are combined and the hundreds are combined giving 521.

(b) More than two addends

0223 . . . .(1) Single digits used in addition without renaming

Level 8,10,13,15,16, 18,21

Ex.

$$\begin{array}{r} 3 \\ 2 \\ +\underline{4} \end{array} \qquad 5 + 6 + 4 = ?$$

3+2+4 does not use renaming since neither 5+4 nor 6+3 uses renaming. 5+6+4 does not use renaming since in neither 11+4 nor 5+10 do the ones need to be renamed.

0225 . . . .(2) Single digits used in addition without renaming

Level 13,20,21

When the addition fact used is greater than 9+9 renaming will be needed.

Ex.

$$\begin{array}{r} 8 \\ 9 \\ 5 \\ +\ \underline{3} \end{array}$$

Adding down 17+5 will use renaming even though addition may be done by considering the ending for the basic fact 7+5. That is, 12 will be renamed as 1 ten and 2 ones.

0227 . . . . (3) Multi-digits used in addition without renaming

Level 12,16,21,23

Ex.

$$\begin{array}{rr} 213 & 313 \\ 141 & 241 \\ +\ \underline{234} & +\ \underline{631} \\ 588 & 1185 \end{array}$$

The ones do not need to be renamed as tens and ones. The tens do not need to be renamed as hundreds and tens.

0229 . . . . (4) Multi-digits used in addition without renaming

Level 12,13,16,18,19,
20,21,22,23,24,25

Ex.

$$\begin{array}{r} 427 \\ 356 \\ +\ \underline{485} \\ 1268 \end{array}$$

18 ones must be considered as 1 ten and 8 ones, 16 tens as 1 hundred and 6 tens, etc.

b. Subtraction

1) Properties

0240 . . . . a) Subtraction, a binary operation

Binary operation - See 0110

0250 . . . . b) Subtraction developed in relation to subsets or separating action

Level 1,2,3,4,7,
10,16,19,21

Ex. Pennies

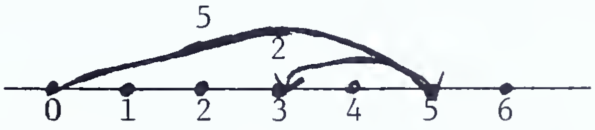
Separate one penny from the set of 5 pennies.

5 - 1 = 4

0260 . . . . c) Subtraction developed from number line

Level 5,7,8,10,16,21

Ex.



5 - 2 = 3

0270 . . . . d) Subtraction, the inverse of addition (relationship of addition and subtraction)

An inverse operation is one which undoes another operation, as standing is the inverse of sitting and sitting is the inverse of standing.

Level 5,7,10,13,15,16,21

Ex. $8 + 3 = 11$ and $11 - 3 = 8$

Adding the number 3 to the number 8 gives the sum 11 ($8 + 3 = 11$).

Subtracting the number 3 from the sum 11 gives the missing addend 8 ($11 - 3 = 8$).

Subtraction is the inverse of addition.

0280 . . . . e) Role of zero in subtraction

Level 4,5,10,15

Ex. $8 - 0 = 8$ $n - 0 = n$

Zero is the righthand identity element for subtraction

$8 - 8 = 0$ $n - n = 0$

Any number subtracted from itself is zero

0290 . . . . f) Nonclosure, noncommutativity, nonassociativity of subtraction of whole numbers

Closure - See 0140
Commutativity - See 0150
Associativity - See 0160

if A = 1,2,3,4,... and the operation is subtraction, then closure is not a property of the operation.

Ex. $3 - 8 = {}^{-}5$ but ${}^{-}5$ is not a member of set A.

Commutativity is not a property of subtraction.

Ex. $7 - 3 \neq 3 - 7$ since $4 \neq {}^{-}4$

Associativity is not a property of subtraction.

Ex. $(9-2)-1 \neq 9 - (2-1)$ since
$7 - 1 \neq 9 - 1 \quad 6 \neq 8$

0300 . . . . g) Role of one in subtraction

Subtracting 1 from a whole number gives the next lesser number.

Level 3,4 Ex. $7 - 1 = 6 \qquad 36 - 1 = 35$

2) Computation

0310 . . . . a) Elementary facts of subtraction

An elementary (basic) fact of subtraction has two whole number addends, known and missing, each less than ten.

Level 4,5,7,10,11,15, 16,17,18,20,21

Ex. $16 - 9 = 7$

$16 - \square = 7$
$16 - \square = 9$
$16 - 9 = \triangle$

The addends 9 and 7 are both less than 10.

0320 . . . . b) Multi-digits used in subtraction without renaming

Renaming in subtraction means to consider 1 ten as 10 ones or one hundred as 10 tens, etc.

Level 8,11,13,17,18, 19,21,22,25

Ex.
$$\begin{array}{r} 47 \\ -\ \underline{23} \\ 24 \end{array}$$
No renaming is necessary

0330 . . . . c) Multi-digits used in subtraction without renaming

0330 (cont'd)

Level 11,12,13,14,17, 18,19,20,21,22, 23,24,25,26

Ex. $\begin{array}{r} 52 \\ -\underline{25} \end{array}$

5 tens and 2 ones may be renamed as 4 tens + 12 ones

then $\begin{array}{r} 40 + 12 \\ -\underline{(20 + \ \ 5} \\ 20 + \ \ 7 \end{array}$ or 27

c. Multiplication

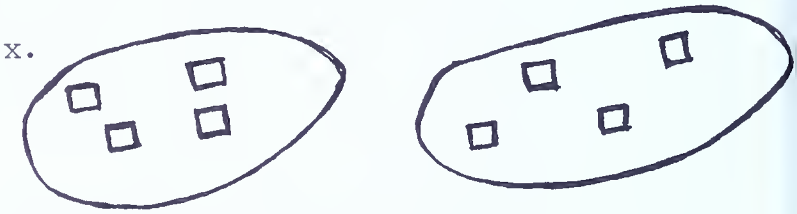
1) Properties

0340 . . . . a) Multiplication, a binary operation

Binary operation - See 0110

0350 . . . . b) Multiplication developed from union of two or more equivalent sets

Ex.



Two sets of 4 are equivalent to one set of 8
Two 4's are 8
2 X 4 = 8

0360 . . . . c) Multiplication developed from arrays

An array is an orderly arrangement of objects in rows and columns.

Level 13

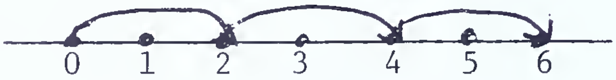
Ex.
. . . .
. . . .
. . . .

3 fours are 12 or 3 x 4 = 12

0370 . . . . d) Multiplication developed from the number line

Level 14,19,22

Ex.



Three 2's are 6

3 x 2 = 6

0380 . . . . e) Multiplication developed as repeated addition

Level 13,14,19,22

Ex. 4 + 4 + 4 = 12

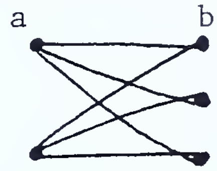
The sum of three 4's is 12

3 x 4 = 12

0390 . . . . f) Multiplication developed from Cartesian product sets

Cartesian product sets - See 4160

Ex.



How many dots in column a? in column b? Connect each dot in a with every dot in b. How many line segments did you draw? (6)

The first dot in column a is connected with 3 dots in column b by 3 different line segments. The second dot in column a is connected to the same 3 dots in column b by 3 different line segments. Together the dots are connected by 2 x 3 or 6 ways.

0400 . . . . g) Closure, a property of multiplication

Closure - See 0140

Ex. 12 x 25 = 300

12, 25 and 300 are all numbers in the set of whole numbers.

0410 . . . . h) Commutativity, a property of multiplication

Commutativity - See 0150

Level 19,22

Ex. 2 x 3 = 3 x 2 = 6   a x b = b x a

The product is independent of the order of the factors.

0420 . . . . i) Associativity - See 0160

Level 24

Ex. $3 \times 2 \times 1 = (3 \times 2) \times 1 = 3 \times (2 \times 1)$
$a \times b \times c = (a \times b) \times c = a \times (b \times c)$

The product is independent of the way in which the factors are associated.

0430 . . . . j) Distributivity, a property of multiplication over addition or subtraction

(1) Distributivity is another name for the distributive property.

(2) An operation is said to possess distributivity if when performed on a set of quantities the result is equal to performing the operation on the individual members of the set and combining the results.

Multiplication is distributed over addition or subtraction

Level 20,22

Ex. $4 \times (3+2) = (4 \times 3)+(4 \times 2) = 12+8=20$ and $4 \times 5 = 20$
$4 \times (3-1) = (4 \times 3)-(4 \times 1) = 12-4=8$ and $4 \times 2 = 8$

$a \times (b+c) = ab + ac$

0440 . . . . k) One, the identity element in multiplication

Identity element - See 0170

1 is the identity element for multiplication because multiplying a number by 1 leaves that number unchanged.

Level 13,19,20,22

Ex. $5 \times 1 = 1 \times 5 = 5$

$1 \times 3 = 3 \times 1 = 3$

$n \times 1 = 1 \times n = n$

0450 . . . . l) Property of zero in multiplication

Any number times zero equals zero

Level 14

Ex. $5 \times 0 = 0 \times 5 = 0$
$n \times 0 = 0 \times n = 0$

0450 (cont'd)

2) Computation

a) Two factors

0460 . . . . (1) Elementary facts of multiplication

An elementary (basic) fact of multiplication has two whole number factors, each less than 10.

Level 14,19,20,22

Ex. 5 x 7 = 35

0470 . . . . (2) Multi-digits used in multiplication without renaming

Renaming in multiplication means considering ones as tens and ones, tens as hundreds and tens, etc.

Level 20,22,23,24

Ex.

$$\begin{array}{r}32\\ \times\ \ 3\\ \hline 96\end{array} \qquad \begin{array}{r}43\\ \times\ \ 3\\ \hline 129\end{array}$$

There is no need to consider ones as tens and ones nor tens as hundreds and tens.

0480 . . . . (3) Multi-digits used in multiplication with renaming

Level 20,22,23,24,25,26

Ex.

$$\begin{array}{r}45\\ \times\ \ 7\\ \hline 315\end{array} \qquad \begin{array}{r}40+5\\ \times\ \ \ 7\\ \hline 280+35\end{array} =$$

$$280+(30+5) =$$

$$(280+30)+5 =$$

$$310+5 = 315$$

Note than 35 was considered as 3 tens + 5. 3 tens were then added to 28 tens.

0490 . . . . b) Multiplication with more than two factors, without renaming

0490 (cont'd)

Ex. 2 x 3 x 4

2 x 3 x 9

1 x 2 x 3 x 4

Only elementary facts are used.

0500 . . . . c) Multiplication with more than two factors, with renaming

Level 25,26

Ex. 6x3x9 = (6x3)x9 = 6x(3x9)

18x9 = 6x27

162 = 162

When 8 is multiplied by 9 the 72 must be considered as 7 tens and 2 ones and 7 tens combined with 9 tens; or when 7 is multiplied by 6 the 42 must be considered as 4 tens and 2 ones and the 4 tens added to 12 tens.

0510 . . . . d) Multiples of ten as a factor

Multiples of 10 are numbers which have a factor of 10 such as 10, 20, 60, 120.

Level 20,22,24,25

Ex.

$$\begin{array}{r}12\\ \times\ \underline{10}\\ 120\end{array}\qquad\begin{array}{r}13\\ \times\ \underline{20}\\ 260\end{array}\qquad\begin{array}{r}25\\ \times\ \underline{60}\\ 1500\end{array}$$

0515 . . . . e) A power of ten as a factor

Level 20,25

Ex. 100 x 15 = 1,500

1000 x 23 =23,000

0520 . . . . f) A number expressed in exponential form as a factor

An exponent is a small numeral written above and to the right of a base numeral. When the exponent is a whole number it shows how many times the base is used as a factor.

0520 (cont'd)

Ex. $4^3 \times 5 = 4 \times 4 \times 4 \times 5$

$a^2 \times a^3 = a^{2+3} = a^5$

$6^2 \times 6^3 = 6^5$

$81 \times 3^3 = 3^4 \times 3^3 = 3^7$

$9^2 \times 3^3 = 3^2 \times 3^2 \times 3^3 = 3^7$

d. Division

1) Properties

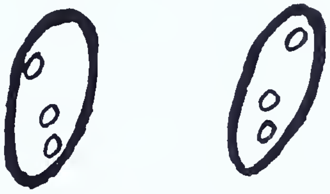
0530 . . . . a) Division, a binary operation

Binary operation - See 0110

0540 . . . . b) Division developed from partitioning into equivalent sets

Level 22

Ex.



How many sets of 3 objects each can be formed from 6 objects or if six objects are separated into two equivalent sets how large will each set be?

0550 . . . . c) Division developed as successive subtraction

Level 19,20,23

Ex.

$$\begin{array}{r} 12 \\ -\underline{\ 4} \\ 8 \\ -\underline{\ 4} \\ 4 \\ -\underline{\ 4} \\ 0 \end{array}$$

In the total operation 4 was subtracted 3 times with no remainder. There are three 4's in 12 or 12 ÷ 4 = 3.

0555 . . . . d) Division developed from arrays

Arrays - See 0360

Ex. . . . .

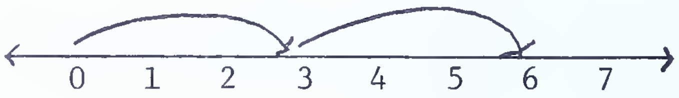
. . . .

If an array of 8 members is arranged with 4 to a row how many rows will there be? 8 ÷ 4 = 2; or if any array of eight members is arranged in two rows how many items will be in each row? 8 ÷ 2 = 4.

0560 . . . . e) Division developed from the number line

Level 19,22

Ex.



How many 3's are there in 6?

6 ÷ 3 = 2

0570 . . . . f) Division, the inverse of multiplication

Inverse - See 0270

Level 20,22,23

Ex. If 4 x n = 12

than 12 ÷ 4 = (that same number)

0575 . . . . g) Distributivity of division over addition or subtraction

Ex. (4+8) ÷ 2 = (4÷2) + (8÷2) =

12÷2 = 6 and 2+4 = 6

Level 20,23

Ex. (8-2) ÷ 2 = (8÷2) -(2÷2) =
6÷2 = 3 and 4 - 1 = 3

The distributivity of division holds only when the operation of addition or subtraction precedes the divisor.

0580 . . . . h) Role of one in division

Level 19,20

Ex. 12÷1 = 12; n÷1 = n

1 is the right hand identity element for division

12÷12 = 1; n÷n = 1

Any number except 0 divided by itself equals 1.

0590 . . . . i) Zero not a divisor

What number could equal a number divided by zero? $\frac{n}{0} = ?$ Could $\frac{6}{0} = 0$? Since division is the inverse of multiplication then 0 x 0 would have to equal 6. This we know is not true. No number times 0 will = 6 and no number times 0 will = n. Therefore, division by zero is an undefined operation.

0600 . . . . j) Nonclosure, nocommutativity, nonassociativity of division

Closure - See 0140
Commutativity - See 0150
Associativity - See 0160

If A = {1,2,3,4,...} and the operation is division, then

Closure is not a property of division since 3÷12 = 1/4, but 1/4 is not a member of set A.

Commutativity is not a property of division since 12÷3 ≠ 3÷12 as 4 ≠ 1/4.

Associativity is not a property of division since (24÷8)÷2 ≠ 24÷(8÷2) as
3÷2 ≠ 24÷4
3/2 ≠ 6

2) Computation

0610 . . . . a)	Elementary facts of division
	In elementary (basic) facts of division, both the known factor (divisor) and unknown factor (quotient) are whole numbers each less than ten.
Level 19,20,22,23 24,25,26	Ex. $4/\overline{\ 32}$ or $32 \div 4 = 8$
0620 . . . . b)	Division: known factor (divisor), less than ten, product (dividend) not renamed; no remainder.
	The dividend is not renamed if each digital value in the dividend is a multiple of the divisor.
Level 20,23,24,25,26	Ex. $2/\overline{4682}$; $4/\overline{\ 484}$; $4/\overline{\ 1248}$
Level 20,24	$\frac{1}{2}$ of 50 =
Level 20,23,24,25	$50 \div 5 =$
Level 20,23,24,25	$69 \div 3 =$
Level 24,25	$40 \div 2 = n$
Level 24,25,26	$66 \div 2 = n$
Level 25,26	$n \times 400 = 800$
Level 25	$\$.04/\overline{\$2.00}$
0630 . . . . c)	Division - known factor (divisor) is less than ten and the product (dividend) is not renamed; remainder
Level 20,22,23,24,25,26	Ex. $\begin{array}{r}\underline{11\ r\ 2}\\ 4/\ 46\end{array}$ $\begin{array}{r}\underline{8\ r\ 1\ }\\ 4/33\end{array}$
Level 20	$5 \div 2 =$ ____, remainder ____
Level 20	$13 \div 3 = \boxed{}$
Level 23,24,25	$96 \div 9 = n$
Level 25	$3/\overline{\ \$15.95}$

0640 . . . . d) Division - known factor (divisor) less than ten, product (dividend) renamed; no remainder.

Level 23,24,25,26 Ex. $\begin{array}{r}\underline{32}\\ 8/256\end{array}$ $\begin{array}{r}\underline{13}\\ 4/\ 52\end{array}$

The dividend is renamed as 25 tens and 6 ones and then as 24 tens and 16 ones.

Level 24 At another station Bob's father paid $2.56 for 8 gallons of gasoline. What was the price of each gallon?

Level 25 $n \times 2 = 1142$

Level 25, 26 $3405 \div 5 = n$

Level 25, 26 $7/\overline{\$90.23}$

0650 . . . . e) Division - known factor (divisor) less than ten, product (dividend) renamed; remainder

Level 23,24,25,26 Ex. $\begin{array}{r}\underline{32\ r\ 1}\\ 8/\ 257\end{array}$

Two hundreds, five tens are renamed as 25 tens, then 24 tens are 17 ones.

Level 24,25,26 $739 \div 8 = n$

Level 25,26 $4/\ \overline{\$86.49}$

Level 26 $3902 \div n = 4\ r\ 2$

0660 . . . . f) Division by ten or greater numbers

Ex. $\begin{array}{r}\underline{3}\\ 10/30\end{array}$ $\begin{array}{r}\underline{21}\\ 26/546\end{array}$

$\begin{array}{r}\underline{178\ r\ 33}\\ 296/52721\end{array}$

0665 . . . . g) Division by multiples of ten

Ex. $\begin{array}{r}\underline{25}\\ 10/250;\end{array}$ $\begin{array}{r}\underline{41}\\ 40/1640;\end{array}$ $\begin{array}{r}\underline{5}\\ 300/1500;\end{array}$

$\begin{array}{r}\underline{62\ r\ 86}\\ 120/\ 7526\end{array}$

0665 (cont'd)

Note: If a text develops division as a series of subtractions the same type division exercises will be used though renaming as shown in 0640 will not be used.

The examples used in 0620 through 0665 might be solved as follows:

See 0620 -

Ex.
$$\begin{array}{r} \underline{121} \\ 1 \\ 20 \\ \underline{100} \\ 4/484 \\ \underline{400} \\ 84 \\ \underline{80} \\ 4 \\ \underline{4} \end{array}$$

See 0630 -

Ex.
$$\begin{array}{r} \underline{11r2} \\ 1 \\ \underline{10} \\ 4/46 \\ \underline{40} \\ 6 \\ \underline{4} \\ 2 \end{array}$$

See 0650 -

Ex.
$$\begin{array}{r} \underline{32r1} \\ 2 \\ \underline{30} \\ 8/257 \\ \underline{240} \\ 17 \\ \underline{16} \\ 1 \end{array}$$

See 0660 -

Ex.
$$\begin{array}{r} \underline{21} \\ 1 \\ \underline{20} \\ 26/546 \\ \underline{520} \\ 26 \\ \underline{26} \end{array}$$

See 0665 -

Ex.
$$\begin{array}{r} \underline{25} \\ 5 \\ \underline{20} \\ 10/250 \\ \underline{200} \\ 50 \\ \underline{50} \end{array}$$

0667 . . . . h) Division by powers of ten

Ex. $263 \div 100 = 2$ r 63

$4256 \div 1000 = 4$ r 256

$5000 \div 100 = 50$

0670 . . . . i) Division with numbers expressed in exponential form

Exponents - See 0520

Ex. $10^5 \div 10^2 = 10^3$

$4^6 \div 4^2 = 4^4$

Use code 0670 only when exponents and bases are positive integers.

e. Combined operation (addition, subtraction, multiplication, division)

0680 . . . . 1) Two sequential operations

Level 22,23,24,
25,26

Ex. $4 + 8 \div 2 = ?$

Parentheses should clarify such an example.

$4 + (8 \div 2) = 4 + 4 = 8$

$(4 + 8) \div 2 = 12 \div 2 = 6$

$(4x7) + 7 = n \quad (35+7) - 4 = n$

$8 \text{ x } (6+8) = n \quad n \div (3x3) = 8$

$n \text{ x } (15-6) = 63 \quad n = (5280 \div 6) \text{ x } 5$

This code should not be used for example such as:

a) $\begin{array}{r} 32 \\ \underline{x18} \end{array}$ though both multiplication and addition are used.

b) $28/\overline{5656}$ though division, multiplication and subtraction are used.

0690 . . . . 2) More than two sequential operations

See explanation 0680

Ex. $(4 \text{ x } 8) - 5 + (8 \div 2) =$

$32 - 5 + 4 = 31$

0700 . . . . f. Raising to powers and finding roots

Ex. $4^3 = 4 \times 4 \times 4 = 64$

A square root of 25 is 5

Note: Only whole numbers can be used in code 0700 since this topic is part of the major topic Whole Numbers. See 0004.

The square root of 25 is not considered as 25½. See 3120.

If the notation not operation is being developed, code 3120.

B. Nonnegative Rational Numbers (fractional numbers)

1. Basic Concepts

1000 . . . . a. Definition: set of nonnegative rationals (fractional numbers)

A nonnegative rational number is a number that can be expressed as the ratio of two whole numbers, provided that the second number (the divisor) is not zero.

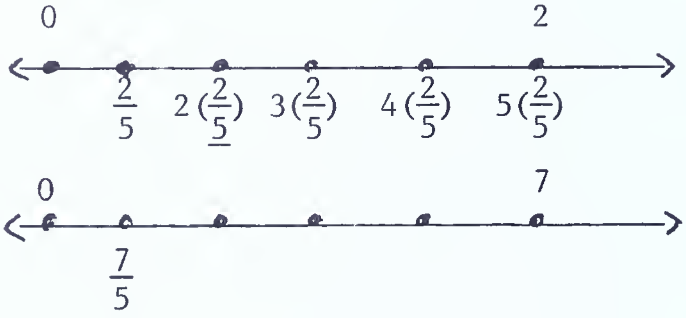
Ex. $\frac{3}{4}$; $\frac{a}{b}$ when $b \neq 0$

Note: When nonnegative rational numbers are considered, the term fractional number will be used. When numerals are considered, the term fraction will be used in the content list.

1005 . . . . b. Developed in terms of basic operation

Level 20,25

Ex.



1005 (cont'd)

$0, \frac{7}{5}, ? \times \frac{7}{5}, ? \times \frac{7}{5}, ? \times \frac{7}{5}, ? \times \frac{7}{5}$

$5 \times \frac{7}{5} = ?$

$\frac{7}{5}$ is $7 \div ?$

$7 \div 5$ is ?

1010 . . . . c. Developed from subset of a given set

Level 13, 24

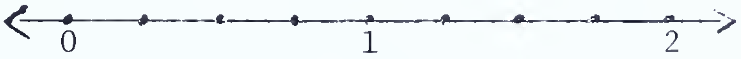
Ex. {● ○ ○ ○}

Note the set of four circles. How many are shaded? When 1 out of 4 is shaded we say 1/4 of the circles are shaded. Which numeral shows the total number of circles? Which shows the number shaded?

1020 . . . . d. Developed as distances on the number line

Level 20,23,
24,26

Ex.

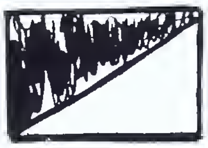


We can pair names for fractional numbers with points on the number line. What is the name of a point half-way between 0 and 1? Let us count by halves o/2, 1/2, 2/2, 3/2, 4/2. Divide the space from 0 to 1 into fourths and count by fourths. When we write 3/4 which numeral tells the number of equal parts into which the unit distance was divided? Which numeral tells the number of parts being considered?

1030 . . . . e. Developed from plane and solid regions

Level 5,13,24

Ex.



Into how many equal parts is the square shape divided? How many parts are shaded? What part of the whole is shaded? 1 of the 2 equal parts is shaded or 1/2 of the whole is shaded. Circular shapes, candy bars, cups, etc. are often used to show fractional parts of a whole.

1035 . . . . f. Developed in other ways

Level 1,2,5,17

1040 . . . . g. Whole numbers as related to set of nonnegative rationals (fractional numbers)

The set of nonnegative rational numbers includes the set of whole numbers which may be written in fraction form $\frac{a}{b}$; a and b are whole numbers, a is a multiple of b and b is not zero.

Level 24

Ex. $\frac{8}{2} = 4$; $\frac{12}{4} = 3$; $\frac{10}{2} = 5$; $\frac{6}{6} = 1$

1060 . . . . h. Definition: equality

Rational numbers which have the same value are equal.

Level 24

Ex. The value of the fractional numbers $\frac{3}{8}$ and $\frac{6}{16}$ is the same.

1080 . . . . i. Counting

Ex. $\frac{1}{8}, \frac{2}{8}, \frac{3}{8}, \frac{4}{8}, \frac{5}{8}, \ldots$

.2, .3, .4, .5, .6, . . .

1090 . . . . j. Ordering: greater than; less than; not equal to; between

Equality - See 1060

Ex. $\frac{a}{b} > \frac{c}{d}$ if $ad > bc$ $\qquad \frac{2}{3} > \frac{7}{12}$

$\frac{a}{b} < \frac{c}{c}$ if $ad < bc$ $\qquad \frac{7}{8} < \frac{11}{12}$

$\frac{a}{b} = \frac{c}{d}$ if $ad = bc$ $\qquad \frac{2}{3} = \frac{4}{6}$

$\frac{1}{2}$ □ $\frac{1}{3}$ □ $\frac{1}{4}$ $\qquad \frac{7}{8}$ □ $\frac{5}{6}$

1100 . . . . k. Density

Density is a term characterizing any ordered sequence of elements such that between any two elements of the sequence another element exists. Fractional numbers have density because between any two fractional numbers another fractional number exists.

Ex.

Between $\frac{5}{10}$ and $\frac{6}{10}$ there exists another fractional number, such as $\frac{51}{100}$; between $\frac{5}{10}$ and $\frac{51}{100}$ there exists another fractional number, such as $\frac{101}{200}$; etc.

Between .8 and .9 there exists another decimal number, .81; between .8 and .81 there exists another decimal number, .807; etc.

2. Operations

a. Addition

1) Properties

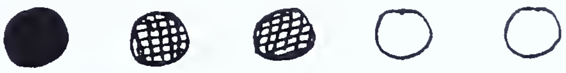
1110 . . . . a) Addition, a binary operation

Binary operation - See 0110

Ex. $\frac{1}{a} + \frac{3}{4} = ?$

$.45 + 2.13 = ?$

1120 . . . . b) Addition developed from union of disjoint sets



What part of the set of all the circle shapes is black? shaded? What part is colored in some way? Write a number sentence to show it.

$\frac{1}{5}$ $\frac{2}{5}$ $\frac{3}{5}$

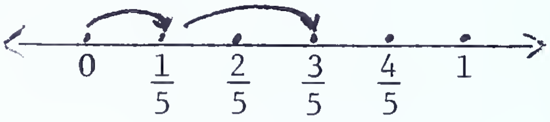
For decimal fractions use 10 shapes

1130 . . . . c) Addition developed from the number line

$$\frac{1}{5} + \frac{2}{5} = \frac{3}{5}$$

Level 26

Ex.



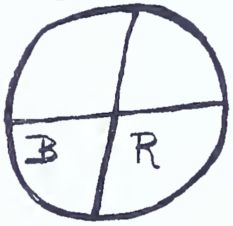
We can add fractional numbers with the same demoninators as we added whole numbers

$$\frac{1}{5} + \frac{2}{5} = \frac{3}{5}$$

How shall we show the jumps? What is the denominator of the sum? How can you find the numerator of the sum?

1140 . . . . d) Addition developed from plane or solid regions

Ex.



What part of the circular shape is red? blue? What part is colored? $\frac{1}{4} + \frac{1}{4} = \frac{2}{4}$. What does the 4 tell us? the 2? How could 2 be found from the numerators? Why must the 4 be used for all denominators? (It tells into how many equal parts the whole is separated).

1150 . . . . e) Closure, a property of addition

Closure - See 0140

Ex. $\frac{2}{3} + \frac{3}{8} = \boxed{}$

$$\frac{16}{24} + \frac{9}{24} = \frac{25}{24}$$

$$.3 + .5 = .8$$

1160 . . . . f) Commutativity, a property of addition

Commutativity - See 0150

Ex. $\frac{2}{3} + \frac{1}{4} = \frac{1}{4} + \frac{2}{3} = \frac{11}{12}$

$.3 + .5 = .5 + .3 = .8$

1170 . . . . g) Associativity, a property of addition

Associativity - See 0160

$$\left(\frac{1}{4} + \frac{1}{3}\right) + \frac{1}{2} = \frac{1}{4} + \left(\frac{1}{3} + \frac{1}{2}\right)$$

$$\frac{7}{12} + \frac{1}{2} = \frac{1}{4} + \frac{5}{6}$$

$$\frac{7}{12} + \frac{6}{12} = \frac{3}{12} + \frac{10}{12} = \frac{13}{12}$$

$.3 + (.25+.4) = (.3+.25) + .4$

$.3 + .65 = .55 + .4 = .95$

1180 . . . . h) Zero, the identity element in addition

Identity element - See 0170

Ex. $\frac{2}{3} + 0 = 0 + \frac{2}{3} = \frac{2}{3}$

$.4 + 0 = 0 + .4 = .4$

2) Computation

1190 . . . . a) Addition with common fraction notation, equal denominators (like fractions)

Level 21

Ex. $\frac{3}{8} + \frac{1}{8} = \frac{4}{8} \text{ or } \frac{1}{2}$

$$\begin{array}{r} \frac{3}{8} \\ + \frac{1}{8} \\ \hline \frac{4}{8} \text{ or } \frac{1}{2} \end{array}$$

1190 (cont'd)

$$\begin{array}{r} 3 \\ + \frac{1}{4} \\ \hline 3\frac{1}{4} \end{array} \qquad \begin{array}{r} 5\frac{1}{7} \\ + 2\frac{3}{7} \\ \hline 7\frac{4}{7} \end{array} \qquad \begin{array}{r} 6 \\ 98\frac{1}{8} \\ 127\frac{3}{8} \\ + \frac{5}{8} \\ \hline 231\frac{9}{8} \end{array} \text{ or } 232\frac{1}{8}$$

1200 . . . . b) Addition with common fraction notation, unequal denominators (unlike fractions)

Ex. $\frac{2}{3} + \frac{1}{2} = \frac{4}{6} + \frac{3}{6} = \frac{7}{6}$ or $1\frac{1}{6}$

or

$$\begin{array}{rcr} \frac{2}{3} & = & \frac{4}{6} \\ \frac{1}{2} & = & \frac{3}{6} \\ \cline{3-3} & & \frac{7}{6} \end{array} \text{ or } 1\frac{1}{6}$$

$$\begin{array}{r} 12\frac{7}{8} \\ + 6\frac{3}{4} \\ \hline 19\frac{5}{8} \end{array} \qquad \begin{array}{r} \frac{3}{8} \\ \frac{2}{3} \\ + \frac{1}{6} \\ \hline 1\frac{5}{24} \end{array}$$

1210 . . . . c) Addition with exact decimal fraction notation

Ex. .5 + .25 = .75 or .50 (since .5 = .50)

$$\begin{array}{r} .50 \\ +.25 \\ \hline .75 \end{array}$$

$$\begin{array}{r} .121 \\ .342 \\ +.514 \\ \hline .977 \end{array} \qquad \begin{array}{r} 30.7 \\ 485.2 \\ + \quad 1.96 \\ \hline 517.86 \end{array}$$

Do *not* use this code with addition involving money. Use 6040 and appropriate code under addition of whole numbers.

b. Subtraction

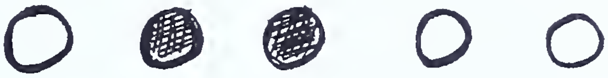
1) Properties

1220 . . . . .a) Subtraction, a binary operation

Binary operation - 0110

1230 . . . . .b) Subtraction developed in relation to subsets

Ex.



What part of the set of all the circular shapes is 1 circular shape? 2? 3? 4? 5? What part of the shapes is shaded? Can we find the part not shaded by subtracting? How?

$\frac{5}{5} - \frac{2}{5} = \frac{3}{5}$. Check your answer by counting.

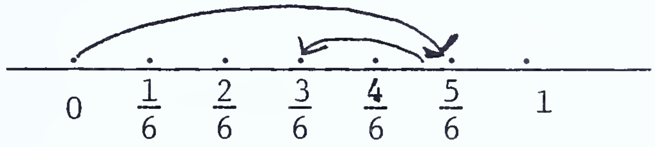
$\frac{1}{5}, \frac{2}{5}, \frac{3}{5}$ not shaded. For decimal fractions use

10 shapes $\frac{10}{10} - \frac{4}{10} = \frac{6}{10}$ or 1 - .4 = .6

1240 . . . . .c) Subtraction developed from the number line.

Level 26

Ex.



Count the parts shown on the number line. Subtract $\frac{2}{6}$ from $\frac{5}{6}$ as we did with whole numbers. $\frac{5}{6} - \frac{2}{6} = \frac{3}{6}$. How is the numerator found? Why is the denominator 6? (It tells into how many equal parts one unit of distance was divided in each case). For decimal fractions divide the unit distance into 10 parts.

1250 . . . . .d) Subtraction developed from plane or solid regions

Ex. 1140

1260 . . . . e) Subtraction, the inverse of addition

Inverse - See 0270

Ex.

If $\frac{1}{2} + \frac{1}{4} = \frac{3}{4}$ then $\frac{3}{4} - \frac{1}{4} = \frac{2}{4}$ or $\frac{1}{2}$

If $\quad + \frac{1}{4} = \frac{5}{4}$ then $\frac{5}{4} - \frac{1}{4} =$

If $\quad + .31 = .56$ then $.56 - .37 =$

1270 . . . . f) Role of zero in subtraction

Ex. $\frac{3}{4} - 0 = \frac{3}{4}$

$\frac{a}{b} - 0 = \frac{a}{b}$ Zero is the right hand identity element for subtraction.

$.18 - 0 = .18$

$\frac{2}{3} - \frac{2}{3} = 0$

$.26 - .26 = 0$ Any number subtracted from itself is zero

1280 . . . . g) Conclosure, noncommutativity, nonassociativity in subtraction

Closure - See 0140
Commutativity - See 0150
Associativity - See 0160

Ex. Nonclosure:

$\frac{1}{2} - \frac{3}{4} = \frac{1}{4}$

$.5 - .75 = .25$

$\frac{1}{4}$ and .25 are not members of the set of nonnegative rational numbers.

Noncommutativity:

$\frac{1}{2} - \frac{3}{4} \neq \frac{3}{4} - \frac{1}{2}$

since $\frac{1}{4} \neq \frac{1}{4}$

$.25 - .13 \neq .13 - .25$

1280 (cont'd)

Nonassociativity:

$$\frac{1}{2} - \frac{1}{3} - \frac{1}{6} \neq \frac{1}{2} - \left(\frac{1}{3} - \frac{1}{6}\right)$$

since

$$\frac{1}{6} - \frac{1}{6} \neq \frac{1}{2} - \frac{1}{6}$$

$$0 \neq \frac{2}{6}$$

$$(.5 - .25) - .2 \neq .5 - (.25 - .2)$$

$$.25 - .2 \neq .5 - .05$$

$$.05 \neq .45$$

2) Computation

1290 . . . . a) Subtraction with common fraction notation, equal denominators (like fractions)

Level 26

Ex. $\frac{5}{6} - \frac{1}{6} = \frac{4}{6}$ or $\frac{2}{3}$

$$\begin{array}{r} \frac{5}{6} \\ -\ \frac{1}{6} \\ \hline \frac{4}{6} \text{ or } \frac{2}{3} \end{array}$$

$$\begin{array}{r} 3 \\ -\ \frac{1}{2} \\ \hline 2\frac{1}{2} \end{array} \qquad \begin{array}{r} 12\frac{3}{4} \\ -\ 6\frac{1}{4} \\ \hline 6\frac{2}{4} \text{ or } 6\frac{1}{2} \end{array}$$

1300 . . . . b) Subtraction with common fraction notation, unequal denominators (unlike fractions)

Ex. $\frac{5}{6} - \frac{1}{2} = \frac{5}{6} - \frac{3}{6} = \frac{2}{6}$ or $\frac{1}{3}$ or

$$\begin{array}{rcr} & \frac{5}{6} = & \frac{5}{6} \\ - & \frac{1}{2} = & \frac{3}{6} \\ \hline & & \frac{2}{6} \text{ or } \frac{1}{3} \end{array}$$

$$\begin{array}{r} 6\frac{1}{2} \\ -\ \frac{2}{3} \\ \hline 5\frac{5}{6} \end{array} \qquad \begin{array}{r} 120\frac{11}{12} \\ -17\frac{1}{3} \\ \hline 103\frac{7}{12} \end{array}$$

1310 . . . . c) Subtraction with decimal fraction notation

Ex. $\begin{array}{r} .75 \\ -\ \underline{.375} \\ .375 \end{array}$ $\qquad$ $\begin{array}{r} .584 \\ -\underline{.123} \\ .461 \end{array}$

Do not use this code with subtraction involving money. Use 6040 and appropriate code under subtraction of whole numbers.

c. Multiplication

1) Properties

1320 . . . . a) Multiplication, a binary operation

Binary operation - See 0110

Ex. $\frac{2}{3} \times \frac{6}{7} =$

$.3 \times .4 =$

1330 . . . . b) Multiplication developed from addition of two or more equal fractions

Ex. $\frac{1}{3} + \frac{1}{3} = \frac{2}{3}$ $\qquad$ $.3 + .3 = .6$

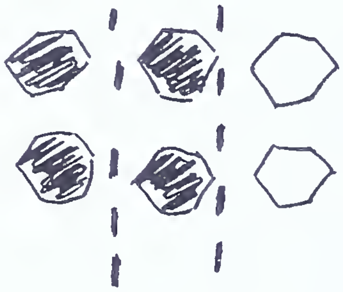
$2 \times \frac{1}{3} = \frac{2}{3}$ $\qquad$ $.2 \times .3 = .6$

1340 . . . . c) Multiplication developed from arrays or sets

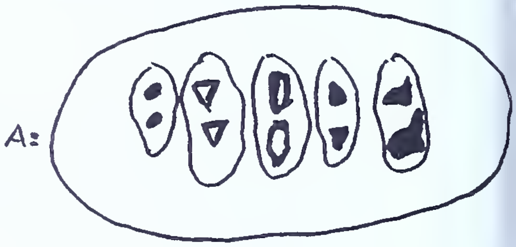
Arrays - See 0360

Level 13

Ex.



$\frac{2}{3} \times 6 = 4$



$\frac{3}{5} \times 10 = 6$

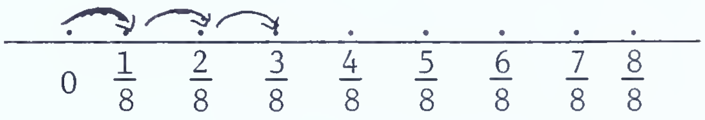
6 of the objects in set A are shaded

$\frac{3}{5}$ of the objects in set A are shaded

Note: One of the factors will be a whole number.

1345 . . . . d) Multiplication developed from the number line

Ex.



To find $3 \times \frac{1}{8}$ take 3 jumps of $\frac{1}{8}$ each on the number line $3 \times \frac{1}{8} = \frac{3}{8}$. Find $3 \times \frac{2}{8} = \frac{6}{8}$. How is the new numerator found? Find also $\frac{1}{2}$ of $\frac{5}{8}$. Where is the half way point from 0 to $\frac{5}{8}$? $\frac{5}{16}$? Then $\frac{1}{2} \times \frac{5}{8} = \frac{5}{16}$.

How is the new numerator found? the new denominator?

Topic II: Numeration and Notation

3000 . . . . . A. Difference between number and numeral

We shall consider number to be the property shared by a collection of matched sets, as 2 is the cardinal number of the sets $\{X,Y\}$ and $\{A,B\}$. We shall consider numerals as the names for numbers, 5, V, 100, etc. A number is an idea, abstract, and cannot be written or seen. A numeral is a symbol for the number, concrete, and can be written and seen.

Level 1,2 Ex. Draw a line from numeral 1 to each set whose number is one.

Level 3 Draw a ring around the correct numeral.

Level 4 Draw a ring around the correct numeral. Write the numeral.

B. Different numerals for the same number (renaming)

3010 . . . . 1. Expanded notation for whole numbers

Expanded notation is notation using numerals showing the place value of each digit.

Level 8 Ex. 874 = 800 + 70 + 4 or 874

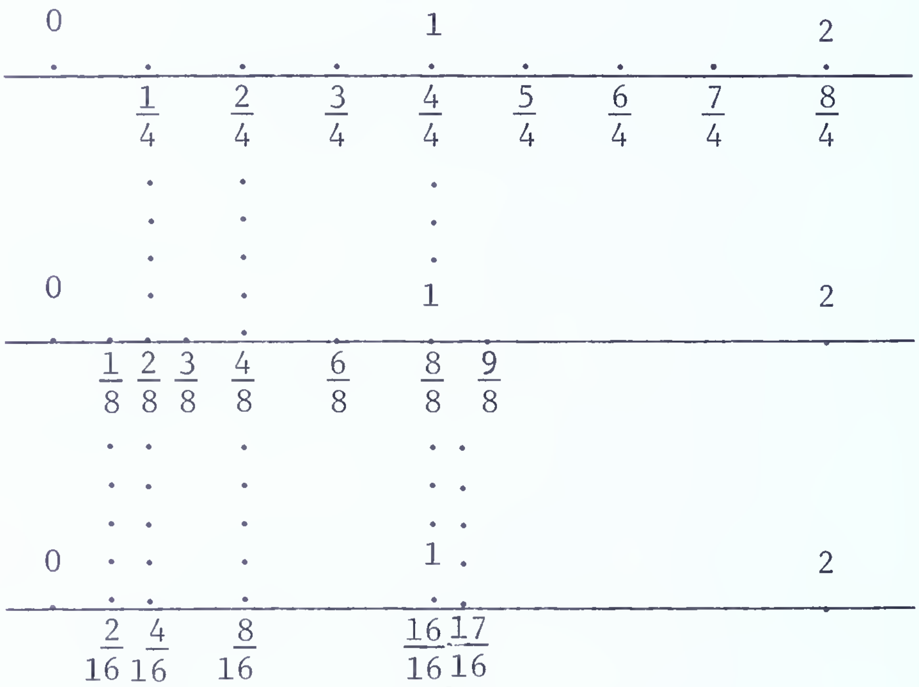
Level 10 874 = 8 hundreds + 7 tens + 4 ones

3015 . . . . 2. Expanded notation for nonnegative rationals (fractions)

3020 . . . . 3. Equivalent common fraction notation

Level 24,26

Ex.



The fraction (numeral) $\frac{2}{4}$ may be renamed as $\frac{4}{8}$, $\frac{8}{16}$. $\frac{1}{2}$ may be renamed as $\frac{2}{4}$, $\frac{3}{6}$, $\frac{5}{10}$, $\frac{6}{12}$, etc.

3025 . . . . 4. Equivalent mixed numeral notation

Level 24,26

Ex. $1\frac{3}{4} = \frac{7}{4}$, $4\frac{1}{3} = \frac{13}{3}$, $\frac{14}{3} = 4\frac{2}{3}$

3040 . . . . 5. Other names for a number

Level 4,5,
6,7,8,10,
12,16,18,
21,24,26

Use this code largely for other names for natural numbers, whole numbers, or integers. Use 3020, 3030, 3033, and 3035 for other names for rational numbers.

Use when not classified in 3010-3035.

If the purpose of the lesson is the development of basic facts, do not code 3040.

Ex. Some other names for 6 are:

Level 4,5,6,7,8,10,
12,16,18,21,
24,26

2 x 3
2 + 4
7 - 1
12 ÷ 2
1 + 1 + 4

3040 (cont'd)

Level 24 — $\frac{1}{2}$ of 12

Level 21 — Change form of 12 to 1 ten and 2 ones

C. Place value in base ten

3050 . . . . 1. Reading and/or writing words or numerals for the ten basic symbols (0-9)

Level 1,2,3,4,6, 9,15,21

Ex. See any Grade I textbook showing how numerals 0-9 are written. Reading numerals or words may occur in exercises such as: Make a mark on the set showing 5 (five) members.

3070 . . . . 2. Units, tens (10-99)

Level 6,7,9,10, 15,16,21,23

Ex. 12 means 1 ten and 2 ones

Use code 3070 when place value is being emphasized.

3080 . . . . 3. Beyond tens

Level 9,10,12,18,19, 20,21,22,24,25

Ex. 103 means 1 hundred, no tens, and 3 ones

Use code 3080 when place value is being emphasized.

3100 . . . . 4. Rounding numbers

Level 17

Ex. 37 rounded to the nearest 10 is 40.
673 rounded to the nearest 100 is 700.
428 rounded to the nearest 100 is 400.

35 may be rounded to the nearest 10 as 30 or 40.
The text used will determine the policy.

D. Historical systems of notation (nonplace or place value)

Historical systems of numeration are considered to be those used before the Hindu-Arabic system; such as the system of Roman Numerals or Egyptian numerals.

Ex. XV in Roman numerals means 15 in Hindu-Arabic symbols.

Topic III: Sets: Physical and Abstract

A. Description of sets

Any collection of individual objects into a whole. A set only exists if it is well-defined; that is, one is able to tell whether an object is a distinct member of the set.

A set is usually indicated by braces {xx} or closed curves

Level 1,3, 9,15 Ex. Physical objects - a set of dishes
a set of dominoes

Abstract - the set of whole numbers

B. Set members or elements

Members - Each object in the set (collection) is a member or element of the set.

Level 3 Ex. The set {□, ○, △, ▭} has 4 members or elements.

The square, circle, triangle, rectangle are elements of the set.

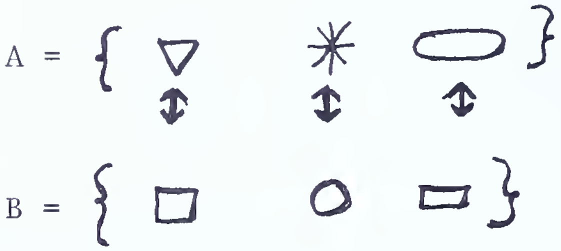
In the set {6, 7, 8, 9} each number is a member or an element of the set.

C. Kinds of sets

4010 . . . . 1. Equivalent (one-to-one correspondence)

Equivalent sets have the same number of members but not necessarily the identical members. Members of equivalent sets can be paired in one-to-one correspondence.

Level 1,2,3,9, 13,19 Ex.



A and B are equivalent sets since each has 3 elements or since the elements can be shown in one-to-one correspondence.

4030 . . . . 2. Non-equivalent (general)

Non-equivalent sets do not have the same number of members and cannot be paired in one-to-one correspondence.

Level 1,2,3, 9,18

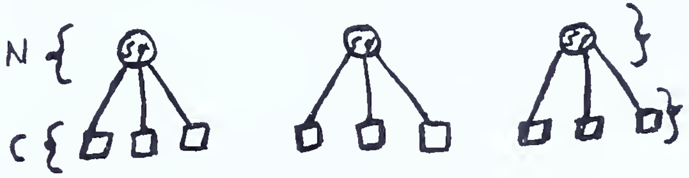
Ex. {□, ○} and {▽, ▯, ⬡}

are not equivalent sets.

4035 . . . . 3. Non-equivalent (one-to-many correspondence)

Level 14

Ex. If one nickel will buy 3 pieces of candy, then two nickels will buy 6 pieces of candy, etc.



In the drawing one element from the set of nickels is matched with three elements from the set of pieces of candy.

4060 . . . . 4. Subsets

If each member of a set B is a member of a set A, we say that B is a subset of A.

Level 3,9

Ex. A = {Set of all pupils boys and girls, in the room}

B = {Set of all boys in the room}

B is a subset of A since all the boys belong to the set of all the pupils.

N = {2,4,6} . The subsets of N are {2};

{4} ; {6} ;

{2,4} ; {2,6} ; {4,6} ; { } ; {2,4,6} .

The symbol to indicate a subset is $\subset$. $B \subset A$ is read B is a subset of A.

Note: A subset may be removed from a set. See 0250.

4060 (cont'd) A set may be partitioned into equivalent subsets. See 0540.

4070 . . . . 5. The empty set

The empty set has no members or elements. The set of students with four legs is an empty set. The cardinal number of the empty set is zero. { } is one symbol for the empty set. The empty set is a subset of every set.

Level 4,10 Ex. Draw an X on each set whose number is zero.

Level 6 Count the sheep inside the pen. Write the numeral for the number shown.

4090 . . . . 6. Disjoint

Disjoint sets are sets which have no elements in common.

Ex. A = {○, □} B = {△, ▭}

A and B are disjoint sets.

$A \cap B = \{\ \}$

C = 1,3,0 D = {7,4}

$C \cap D = \{\ \}$ or $\emptyset$

4093 . . . . 7. Union of sets

The union of two sets, denoted by the symbol $\cup$, is the set of all elements belonging to either of the two sets or to both of them. Elements common to both sets are not repeated when naming the set union.

Level 1,2,4, 13,18 Ex. $A = \{1,3,5\}$ $B = \{2,3,5,7\}$

$A \cup B = \{1,2,3,5,7\}$

Level 1,2 Draw one more balloon so there will be as many balloons as girls.

Level 4,13 Join the sets and write numbers for their numbers.

Level 18 Tell how you would solve each problem below. Tell how you decided. Ex. Jean bought fish for 97¢ and a bag of popcorn for 5¢. How much did she pay for both?

Topic IV: Geometry

A. Intuitive concepts of geometric figures and ideas

5010 . . . . .1. Geometric figures in environment

Level 1,2,3, Shapes such as circles, squares and triangles become familiar through pictures or objects seen in room, on trips,

Note: Use this code in introductory lessons to geometric figures where a variety of familiar shapes are used.

5020 . . . . .2. Geometric designs or patterns (sequences)

Level 5,8 Ex. □-○-□-○— ?—?

Continue the pattern

5030 . . . . .3. Spatial relations without measurement (size, position)

Level 1,3 Ex. Mark an x on the larger ball.
Mark an x on the largest ball.
Mark an x above (below) the doll.

5060 . . . . .4. Curves: simple, closed, open

A curve in a plane may be thought of as a set of points represented by a drawing made without lifting the pencil from the plane.

Level 3,12 Ex.

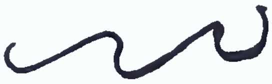


Figure A

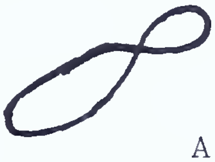


Figure B

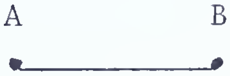


Figure C

5060 (cont'd)

A simple curve does not pass through any point twice. Figure A (above) is a simple curve. Figure B (above) is not a simple curve.

A closed curve begins and ends at the same point.

Ex.

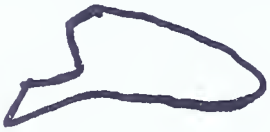
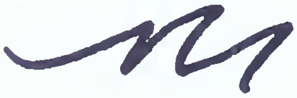


Figure D

An open curve does not end at the beginning point.

Ex.



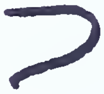


Figure E

Figure F

A simple closed curve is undefined but may be thought of as beginning and ending at the same point so that in tracing the complete curve no other point is encountered twice. The continuous mark may consist of straight line segments as well as curved segments.

Ex.

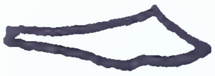


Figure G

Figure G is a simple closed curve. Figure B (above) is a closed curbe but not a simple closed curve.

Level 3 Draw a ring around the set of birds.

Level 12 Find a path out of the opened figure

5070 . . . . .5. Regions: interior, exterior

Level 5 A simple closed curve separates the plane into 3 sets of points.

5070 (cont'd)

All points outside the curve (exterior region)
All points inside the curve (interior region)
All points on the curve (boundary). The boundary has no points in common with either its interior or exterior regions.

Area is the measurement of the interior region and boundary of plane figures.

Note: Some elementary textbooks defined region as the union of a simple closed curve and its interior. Instead of interior region and exterior region as defined in the Content Authority List, the three sets of points are called: the curve, the interior, and the exterior.

See McGraw-Hill, Book 1, p.56,107
SMSG, Book 4, p.473.

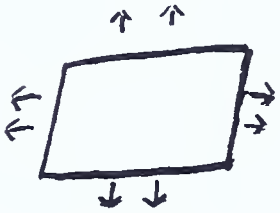
5080 . . . . .6. Representations of point, line, plane, space

A point is a concept which like a number exists only in the mind. As a numeral represents a number, a dot (.) represents a point. The tip of a pen or the sharp end of the lead in a pencil would suggest a point.

A line is a set of points extending infinitely in opposite directions.

Level 12,26

Ex. The marks where the walls meet the ceiling make you think of lines though they do not go on forever.



A flat surface suggests a plane. The set of points in a plane extends infinitely in all directions.

Ex. Some things in the room which you think of a plane are desk top, floor, a piece of paper. Perhaps the shadow is the best model since it is flat and has no thickness.

Space is the set of all points. We think of geometric figures like your book, or ball, or box of dominoes as space figures.

B. Concepts of geometric figures and ideas explored in depth

5090 . . . . 1. Point

A point is a location. It has no size. The intersection of two lines determines a point. Between any two points there is always another point.

5100 . . . . 2. Line

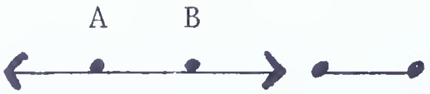
A line is a set of points which extend infinitely in opposite directions.

For any two points there is only one line which passes through both of them.

Two different lines intersect in only one point.

5101 . . . . 3. A line segment is an infinite set of points (a subset of a line) with two points indicating endpoints.

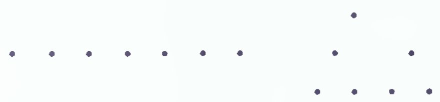
Level 5,12,14

Ex. 

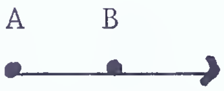
is a picture (model) of a line segment. A wire stretched between two posts is a model of a line segment.

Level 5

Tell what the set of points make you think of



5103 . . . . 4. A ray is an infinite set of points (a subset of a line) with only one endpoint. A second point in the ray helps to read it.

Ex. 

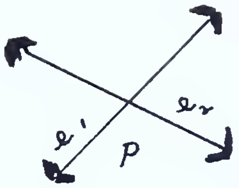
$\overrightarrow{AB}$ is a picture of a ray.

A beam of light coming from the sun is often called a light ray.

5105 . . . . 5. Related lines: intersecting, parallel

Lines drawn through a common point are called intersecting lines.

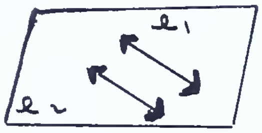
5105 (cont'd)



e1 and e2 are intersecting lines through point P. How many lines can intersect at point P? (infinite number).

Parallel lines are lines lying in the same plane and having no point in common or all points in common.

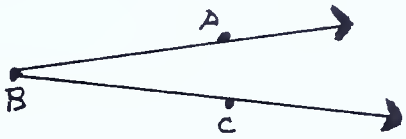
Ex. Two rails of a railroad track represent parallel lines.



5115 . . . . 6. Angles

An angle is the union of two rays with the same endpoint.

Ex.

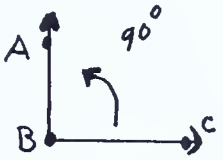


5125 . . . . 7. Kinds of angles

A right angle is an angle whose measure is 90°.

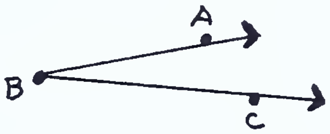
Level 12,20,26

Ex.



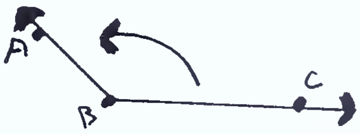
An acute angle is an angle whose measure is greater than 0° and less than 90°.

Ex.



An obtuse angle is one whose measure is greater than 90° and less than 180°.

Ex.



Level 12

Make a square corner by folding paper once to make a line segment and fold again on the line segment.

5150 . . . . a. Triangles

See 5280 and 5290 for perimeter and area.

A triangle is a polygon of three sides.

Level 2,3,5,8,
12,20,26

An equilateral triangle is one whose three sides are equal in length (or measure).

An isosceles triangle is a triangle with at least two sides or two angles equal in measure.

A scalene triangle is a triangle with no two sides equal in measure.

A triangle having one angle whose measure is 90° is a right angle.

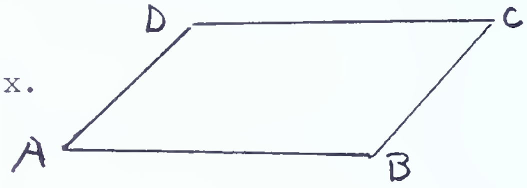
5160 . . . . b. Quadrilaterals

Quadrilaterals are polygons having four sides.

A parallelogram is a quadrilateral with both pairs of opposite sides parallel.

Level 1,2,3,5,8,
12,20,26

Ex.



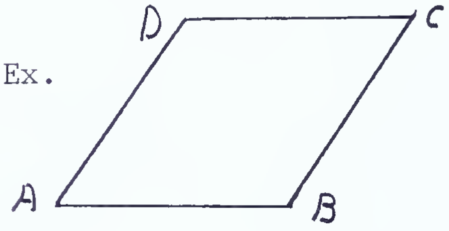
$AD \parallel CB$
$DC \parallel AB$

A rectangle is a parallelogram with one right angle (and therefore with four right angles).

A square is a rectangle with two adjacent sides equal in measure (and therefore with all four sides equal).

A rhombus is a parallelogram with two adjacent sides equal in measure (and therefore with all four sides equal).

Ex.



5160 (cont'd)

A trapezoid is a quadrilateral with one and only one pair of parallel sides.

Ex.

Level 3	Recognize square.
Level 5	Record the inch measure for each side of a rectangle or square.
Level 8	Tell how many rectangles or squares you can find.
Level 12	Use a square corner to test a rectangle.
Level 26	Drawings on graph paper are compared to distinguish rectangles from other quadralaterals.

5172 . . . . 8. Curves

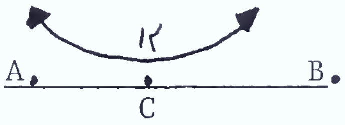
5174 . . . . a. Simple, closed, open

See 5060

5176 . . . . b. Convex, concave

A curve is said to be convex toward a point or line if it curves toward the point or line

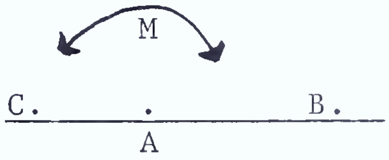
Ex.



Curve K is convex toward $\overleftrightarrow{AB}$ and point C.

A curve is said to be concave toward a point or a line if it is hollow toward the point or line.

Ex.



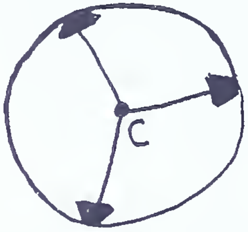
The curve is concave toward $\overleftrightarrow{CB}$ and point A.

5180 . . . . 9. Circles

A circle is the set of all points in a plane which are the same distance from a given point (the center) of the circle.

Level 1,3,5,8
12,20,26

Ex.



All the points on the curve are equidistant from the center C.

The radius, diameter and a chord of a circle have special characteristics.

A circle separates the plane into interior and exterior regions.

Central angles cut off arcs and sectors of the circle.

See codes 5280 and 5290 for coding circumference and area of circles.

Level 5

Tell which set of dots makes you think of a circle--measure the lines to the center.

5255 . . . . a. Similarity: scale drawing

In a scale drawing all distances are in the same ratio to the corresponding distances on the original figure.

. . . . 10. Measurement of geometric quantities

5260 . . . . a. Line segments with ruler and/or compass or other measuring device.

Level 1,5,14,17,
23,26

5270 . . . . b. Angles with protractor and/or compass or other measuring device.

c. Perimeter or circumference of simple closed curves.

Topic V: Measurement of Nongeometric Quantities

6000 . . . . A. Meaning of measurement (direct, indirect)

To measure means to compare an object with some suitable unit usually a standard unit.

Level 23 Ex. Length is measured by a unit of length such as an inch or yard. Area is measured by a square unit such as a square foot.

6001 . . . . 1. Approximate nature of measurement

Level 23 No measurement is exact. If you are measuring a line segment your measurement will be affected by the width of the dots at the endpoints, the angle at which you see the lines on your ruler, worn edges of your ruler and so on.

6030 . . . . a. English units for yards or less

Level 5 Ex. Use foot ruler to measure length of pencil by inches.

Level 14,17,20 Use yardstick to measure length of room by yards and inches.

Level 23,24,25,26 Use yardstick to measure length and width, of top of desk converting inches to feet, feet to yards.

6034 . . . . b. Square units of measure in the English system of measures.

Level 25 Ex. Mr. Anderson paid $2,415 for 7 acres of land. What was the cost of each acre of land?

6040 . . . . B. Money

Level 1,2,5,8 Ex. How many banks do you see? How many pennies do you see? Is there a penny for each bank? Draw another penny so there there will be as many pennies as banks.

Match each price tag with the correct amount of money. e.g. 1 penny, 1 nickel = 6¢.

6040 (cont'd)

Level 14,15,16,17	Scott saves 5 cents each day. How many cents will he save in 7 days? 7 x 5 = Penny = 1 cent Dime = 10 cents Nickel = 5 cents Quarter = 3 quarters + 3 pennies = 78 cents Will 1 dime buy as much as 10 pennies?
Level 19,20	Ray had \$6.75 in his savings bank. He put in 75 cents. How much money had he in his bank then? 675 + 75 = \$7.50.
Level 21,22,23,24, 25,26	Nora had \$.41. She spent some during the day and had \$.06 left. How much money did she spend? Note: The signs \$, ¢ are not to be used in equations. They are included only in the final answer to a problem. Roy paid \$.40 for 5 grapefruits. How much did each grapefruit cost? The school ordered spelling books for the fourth grade. If each book cost \$1.18, how much would 29 spelling books cost?

6050 . . . . C. Time

Level 8	Write the numeral for the time shown on each clockface.
Level 14	Each arrow represents the minute hand of a clock. Write the numeral for the number of minutes shown.
Level 17,19	The short hand on a clock is called the hour hand. It measures time in hours. The long hand is called the minute hand. Find the 2 hands.

6050 (cont'd)
Level 23,25,26

6060 . . . . D. Distance in English units for lengths longer than a yard.

Level 20,23,24, 25,26

6070 . . . . E. Liquids in English units

Level 5,14,17,20, 23,24,25,26

6080 . . . . F. Temperature: Fahrenheit and Centigrade

Level 17,23,25

6090 . . . . G. Weight in English units

Level 17,20,23, 24,25,26

6100 . . . . H. Dry measures

Level 23,25,26

6110 . . . . I. Quantity (dozen, gross, etc.)

Level 17,20,25,26

6130 . . . . J. Conversion to other standard units measuring several kinds of nongeometric quantities

Level 23,26

Ex. In one lesson:

10 pecks = 2 bushes 2 pecks

90 minutes = 1 hour 30 minutes

15 quarts = 3 gallons 3 quarts

etc.

Note: If conversion is being developed with one kind of nongeometric quantity only, code under the quantity.

6130 (cont'd) Ex. 21 days = 3 weeks

120 minutes = 2 hours

24 months = 2 years

3 days = 72 hours

etc.

Topic VI: Number Patterns and Relationships

7055 . . . . 1. Multiples

Level 20,22

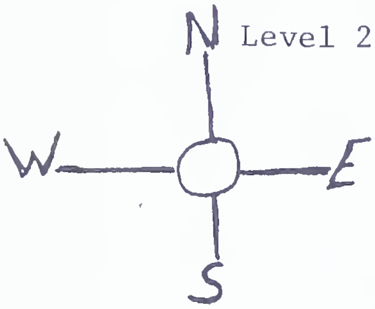
Multiples of a number N are numbers (product obtained by multiplying N by integers.

Ex. 10, 35, 125, and 5000 are multiples of 5.

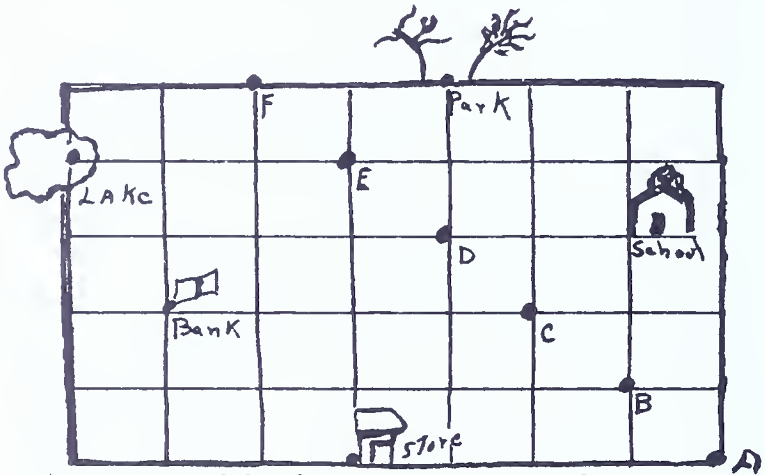
7140 . . . . 2. Grid

Level 26

A grid is an arrangement of regularly spaced parallel lines.



Ex.



How many blocks east must John go to get to point A?

How many blocks east and how many blocks north does he go to point C?

Note: Magic squares and practice exercises for basic facts in a grid arrangement are coded under the operation involved. The behavior code will indicate whether the practice uses magic squares or similar grid ideas.

7160 . . . . A. Special patterns (including short cuts)

Level 8,14,21,
23,24,25

Code with an operation if possible.

7160 (cont'd)

Ex. To multiply by 25 quickly, multiply by 100 and divide by 4 (actually multiplying by $\frac{100}{4}$, another name for (25).

Ex. $45^2 = (40+5) \times (40+5)$

$= (40 \times 40) + (10 \times 40) + (5 \times 5)$

$= (50 \times 40) + 25 = 2025$

Using the short cut

$45^2 = (5 \times 4) \times 100 + 25$ or 2025

Code 7160 and 0700 (raising to powers and finding roots).

Ex. 15 x 15 = 225
35 x 35 = 1225
65 x 65 = 4225
75 x 75 = 5625
95 x 95 = 9025
45 x 45 = 2?25
85 x 85 = ????

There is an easy way to find the product when a number is multiplied by itself if the numeral for the number has a 5 in the ones place. Can you see the pattern?

Let t = tens digit
Let 5 = ones digit

$(t + 1) \times t \times 100 + (5 \times 5) = N$

Ex. Since 3 + 7 = 10, then 13 + 7 = ?
Since 8 + 7 = 15, then 18 + 7 = ?
Since 8 + 9 = 17, then 18 + 9 = ?
Since 9 + 6 = 15, then 19 + 6 = ?
Since 4 + 9 = 13, then 14 + 9 = ?

Topic VII: Other Topics

8002 . . . . A. Rate pairs

Level 20

A rate is a comparison between two quantities having different dimensions such as miles per hour.

Ex. If one candy bar costs 6¢, 2 candy bars cost ?¢.

8002 (cont'd)

Note: Most verbal problems using multiplication involve the concept of rate.

See 4035.

8050 . . . . 1. Frequency tables, charts, graphs (bar, line, circle, dot, picture, etc.)

Level 4,26

8060 . . . . 2. Measures of central tendency: average

Level 25,26

The average is found by dividing the sum of the numbers by the number of items in the sequence.

Ex. The average of 4,8,10 and 16 is $(4+8+10+16) \div 4$.

8150 . . . . B. Estimation

Level 18,19,23,25

An approximate (estimated) answer to a problem can often be found by using round numbers and mental computation.

Ex. The sum of

$$\begin{array}{r} 428 \\ 365 \\ \underline{+215} \\ 1008 \end{array}$$

actual sum

is approximately $400+400+200 = 1000$

8170 . . . . C. Mathematical sentences (equations)

Level 4,5,7,
14,21

An arrangement of symbols indicating that a relation exists between two or more things. The sentence contains at least two symbols for numbers, points, sets, or the like and a relation symbol. The most common relation symbols are $=$, $>$ and $<$.

Ex.

	symbol for thing	relation symbol	symbol for thing
Equations:	$2 + x$	$=$	3
	$3y$	$=$	18
Inequalities	2	$>$	1
	$\frac{x}{y}$	$<$	7
	$3 + 5$	$\neq$	10

8170 (cont'd)

Kinds of Sentences	Open Sentence	Statement
	$x + y = 13$	$2 + 11 = 13$
	$4 \square 9 = 36$	$4 \times 9 = 36$
	$6 \times 5 \bigcirc 24$	$6 \times 5 > 24$

Developmental work with problem-solving may be classified under code 8170. Problem-solving (application) should be coded under the operation involved.

APPENDIX C

THE URBAN SCHOOL WORKSHOP AGENDA

WORKSHOP

AN EDUCATIONAL PROGRAM FOR CHILDREN OF THE URBAN SCHOOL

Dates: August 4, 5, and 6, 1969
Location: The Urban School

August 4, 1969

9:00 - 9:15	Introductions and explanations of Workshop Goals
9:15 - 10:30	Review of Preschool and Primary Education Program Panel: Dr. Castaldi, Mrs. Hays, Mrs. Wilson, Mr. Lindley a. Description of program b. Contribution of program to children's growth c. Shortfalls in our progress d. Evaluation of progress
10:30 - 11:30	Description of special curriculum needs of Urban School children. Dr. Castaldi (testing program, checklists, logs, psychological reports, observations, etc. will be used to provide descriptive material).
11:30 - 1:00	Lunch at a local restaurant with a central office administrator and/or a school board member as a brief speaker to express their support for the teaching staff's efforts to provide the most appropriate educational program for Urban School children.
1:00 - 1:30	Walk through the Park.
1:30 - 2:00	Time for recording reactions to the conditions of the community and for answering a questionnaire about the affect of community conditions on the learners self-concept.
2:00 - 3:00	Discussion of the questionnaire and observations - Dr. Alfred Castaldi.

August 5, 1969

9:00 - 10:30 and 10:45 - 12:30	Dr. G. Bradley Seager Individualized Instruction a. Curriculum b. Teaching Methodology
12:30 - 1:00	Lunch Break
1:00 - 3:00	Team Teaching (role playing) Dr. G. Bradley Seager

August 6, 1969

9:00 - 10:30	Sensitivity Training Session (Simulation Game) Dr. G. Bradley Seager
12:00 - 1:00	Lunch Break
1:00 - 3:00	Group divided into two groups - one with Dr. Castaldi and one with Dr. Seager Teacher's Objective - Development of Self-Awareness in working with children from poor families

APPENDIX D

RURAL SCHOOL
TEACHER EVALUATIONS

March 5, 1969

Dear Mr. Kershner:

Listed below are the significant benefits of The Ford Foundation program as I have seen it in the two years that I have been associated with the project.

The children were given pre-school experiences that they would not have received otherwise.

Children from economically deprived homes live in poor environments as far as educational experiences are concerned.

We find that the education of the parents is very limited (6th or 7th grade education) or they have been special education students.

When these children enter the regular classroom they do not receive any special attention from the teacher.

When these children entered The Ford Foundation program they were the center of attention.

The teachers in The Ford Foundation were given special training in working with the economically deprived children and therefore developed a great concern for them.

Due to the special training of the teachers their attitudes changed toward the children and parents of the deprived.

The attitude of the parents toward the school changed and a better relationship was established between the two.

The parents of the deprived joined the P.T.A. and some even became officers in the organization.

Some of the parents become volunteer aides in the classrooms and spend one day a week there.

The teachers learned to use a larger variety of material in the classroom.

The teachers learned to plan their day of instruction to a greater degree which resulted in better instruction.

The teachers also learned to work as a team and to exchange ideas and material.

The teacher gained more knowledge about each pupil and was able to evaluate each pupil better.

The teacher learned more about individualized instruction and a non-graded program.

More teacher-made materials were developed.

The children were encouraged to do more thinking and creative work.

The children learned to work together on common problems and to be concerned for each others' welfare.

The children were placed at an instructional level at which they were able to succeed.

The children were encouraged to express themselves verbally and do so very well.

Yours truly,

Mr. Carmen A. Guappone
Principal
Albert Gallatin Area
School District
Central Elementary School

March 5, 1969

Dear Mr. Kershner:

I was happy and surprised to receive your request of a Ford Foundation Project teacher's random thoughts about the program and will herewith try to put these thoughts in writing - randomly, as you had suggested.

The word "random" has already been used three times in this letter and possibly (very) this is the over-all feeling I've had so far this year - nothing was too structured at the beginning of the year and, therefore, most of my decisions were random ones as to how to approach my non-graded class room. From these random approachs, one basic conclusion has been reached and that is: that no generalities that are too restrictive should be reached, for each class (even within the project), each project, and each child need a very flexible approach to succeed. I find I must work within the structure that this otherwise graded elementary school has already set up and from there I improvise constantly. It appears to me that for a project to succeed it must allow its teachers and principal to make most of their own rules - even if these have to be reworked each fall for any improvements. The freedom for self-expression and creativity that the teacher has is felt by the students and they, I feel, sense that they are individuals then, also.

So as to not ramble on, much more and get to other points I shall say that:

1. The children are, I feel sure, benefiting from this program which is, of course, the most satisfying aspect of it.

2. The teachers are not without excellent guidance from the principal who is extremely interested, and from the advisors who visit for conferences and in-service training.

3. The underprivileged child does not fail when in a non-graded class and is always progressing, which is a salient attribute of this program.

4. The problems of grouping and of the accompanying team teaching will always (I guess I shouldn't say this) be with a program like this.

These problems, however, are good for they make one aware of how much reorganizing and new approaches must be found, therefore, constantly keeping the teacher and the program in a state of flux--never a static thing. This constant search for new ways to approach our problems keeps and will keep it alive and we will, thusly, be able to sustain the searching minds in our pupils that we so much want to see.

It has been a good year!

Sincerely,

Linda G. Helmstadter
Central Elementary School

March 5, 1969

Dear Mr. Kershner,

In regard to the Pre-school and Primary Education Project conducted by the Department of Public Instruction, Department of Public Welfare, Department of Health and our local School District, and sponsored by The Ford Foundation which is coming to an end in June of this year, I would say sincerely that since I have been with the project from June 1964 to June 1969, total of five years it was a wonderful educational experience.

Each year having a new focus and new learning experience both for the children and the teacher. I have enjoyed very much working with both the nursery and kindergarten age child. By attending many in-service workshops throughout the five years, I have come to know many outstanding professional people. I have accumulated a wealth of material on the very young child who is culturally deprived. Also I have been able to work with the child's parents both at home and at school. This gives one a great knowledge about the child as he performs in school.

During one year of the project I was assigned as social worker. This gave me a chance to know many children and parents. Another year of the project, the social worker and I worked together as a team. We encouraged parents to come and visit and help out in the classroom and also to attend evening meetings.

I would say this last year of the project being involved in a team teaching program has been very interesting in that you can try new ideas; work with different groups of children, sharing films, sharing children; having teacher aides and parents in the classroom, also having two wonderful consultants visiting often and giving us ideas to try.

Yours truly,

Ellen McGill
Project Teacher
Non-graded Primary

March 5, 1969

Dear Mr. Kershner:

Before expressing any of my views or experiences with the Ford Project I wish to remind you that this year is my first with the project.

It seems to me that the children are happier, more enthusiastic and certainly they verbalize more than they otherwise would if it were not for the project. I think this is especially important with children of this type. The fact that the children can progress at their own rate, thus eliminating feelings of failure, is important. The movement of the children from one teacher to another exposes them to the different teacher personalities. This movement enables the teachers to become acquainted with, discuss, and diagnose problems of the individual child. There are, of course, other advantages besides those mentioned.

Perhaps I should also comment on the in-service training I have received by being a member of the team. This has been of great value and an incentive to me. In view of the fact that my previous experience was in a self-contained classroom I might say it was even a necessity. I have been and continue to be thankful for our consultants expert guidance.

There is no doubt in my mind that this project has been of great benefit to these children.

Sincerely,

Mrs. Dorothy Galanko

March 5, 1969

Dear Mr. Kershner:

The Ford Foundation Program has served to help meet the needs of those children who might have been cast aside with no one taking any particular interest in them.

Many of the children are at a disadvantage because of their low socio-economic level. This, coupled with a low I.Q. and lack of motivation, makes teaching a real challenge.

Because of the small classroom sizes The Ford Foundation children have benefitted from individual attention, not only academically but in the social area as well. Even those with the most bizarre behavior originally are now accepted by their peers and work cooperatively with the teaching team on most occasions.

Many of the parents have become more conscious of their children's health needs as a result of the initial interest shown in this area when the program first began. The social worker held informal meetings and distributed literature pertinent to the health needs of children. These informal gatherings probably created for the first time an awareness in some parents as to the real needs of their children, both physically and mentally.

The Ford Foundation children enjoy school and all it stands for. They find it easy to verbalize and are anxious to express their feelings.

The testing program has assisted the teachers in their planning. The weaknesses and strengths of each student can easily be assessed by our cumulative records. Because of frequent testing and exposure to unfamiliar personnel, the children are not hesitant or fearful of adults.

Creating a feeling of worth within for some of these children has made it easier for them to adjust to a school situation. It is hopeful that the desire to learn will be instilled at this primary level and will be a carryover for the remaining school years.

Mrs. Hazel Slabaugh

APPENDIX E

URBAN SCHOOL

TEACHER EVALUATIONS

Dear Mr. Kershner:

The manner in which an administrator looks at a school is in most cases much different than an educator will look at the same school, if he is concerned only with the learning process itself. The administrator must be concerned with all phases of the total school program - the physical plant, the heating system, the availability of special services rooms, the cafeteria, the all-purpose room, the ancillary services that are available, the teaching staff, the parents of the children, the parent organizations, the superintendent's effect on the school program, the relationship of the school itself with the district as a whole, and of course, the child and the learning process.

The Lacey Park School and the programs developed within the school under the influence of The Ford Foundation, the Department of Education, the Department of Public Welfare, the Centennial School District, and the personnel associated with each group, has undoubtedly a program that in the vision of the principal is much different from a traditional school program.

The curriculum with its language period, math period, and selection period dictating the mode of the kind of education the children receive is one which is difficult to find in a traditional situation. The children are not forced into achieving a certain level of performance in order to go into the next year. The nongraded aspect permits more freedom and possibilities for individualization. The children are encouraged to learn but they are encouraged in a positive manner with less pressures. The competency of the teacher to diagnose learning levels is of much importance in such a set-up.

The value of the teacher's aides cannot be denied. They are extremely supportive of the teachers and allow much more individual attention to be focused on each child.

Team teaching as it is practiced in our school facilitates the sharing of information about all of the children, making individualized teaching more of a possibility. The need to develop a positive image, I'm certain, are effected considerably by the teaching staff's familiarity of a large number of children in the school. The fact that the school is a small school and that the teachers have been a stable group also rank high in our ability to help develop within each child a rewarding image.

The pre-school program, alone, is a tremendous influence upon the school. The effect that a program of this kind has on the school is both immediate and far reaching. The facilities and equipment that must be provided for these children is far different than the facilities and equipment that is utilized by young primary children.

The activities, quite naturally, that these children engage in, are so different from that of the primary children. The equipment used by pre-school children and the activities that they participate in, cause a much different outlook in a school. The success of such a program cannot be denied when you see the children make the next step into the kindergarten. They are so much more ready for that step than they would be without the experience. Their knowledge of the building and their awareness that it is going to be a happy experience for them is a factor that makes a pre-school program such a success.

The involvement of the parents along with the large number of volunteers that work with us is probably the greatest visible difference in our school. The elementary principal, in many cases, will look upon this kind of a program as one of detriment with a feeling that parents do not belong in the school. I feel that the importance of an active volunteer program and open house atmosphere for parents cannot be negated. To make the parents feel welcome in the school, to make them feel that they are important to us in the education of their children is of much value to the school as they work with children.

The Lacey Park program, as a whole, is to me, a program really developed around the needs of the children and not upon some arbitrary criteria which we want to force upon the children. It is a program which should be expanded to include all the children which might benefit because of the circumstances under which they live.

Arnold E. Lindley,
Principal

August 15, 1969

Dear Mr. Kershner:

In reviewing my years in The Ford Foundation Program, I cannot help but think what it has first done for me as a Professional Educator. I say Educator, because that is now how I can think of myself. I started as an experienced teacher, well versed in the theory and practices of Early Childhood Education and quite sure of my abilities with children. Though I felt quite open-minded, there were certain principles I held sacred. Other philosophies of education were approached with a degree of resistance and those advocating radical change were suspect.

I doubted if disadvantaged children of normal intelligence really had different educational needs. It seemed to me a good sympathetic teacher using the prevailing philosophy would accomplish the necessary goals.

Our theory had been that young children must identify with a single adult figure, and bringing adults,especially untrained ones into a classroom would cause confusion and insecurity for the children. Working with parents was important, but bringing them into the classroom on a regular basis was indeed folly.

Through The Ford Program, during inservice meetings, meetings with top-notch, well-versed consultants, I learned to realize an educator must not only be knowledgeable but must be willing to evaluate new ideas on the basis of "will they work." I not only listened but began to read all I could find that was published in this field.

Stimulated to innovation and creativity I began to grow in all phases of my profession. To my surprise the adults in the classroom became a very real necessity. Parents in the classroom understood what we were trying to do and also became a vital part of my work.

Disadvantaged children do have very special educational needs. It was necessary for me to develop techniques of diagnostic teaching and involve activities to satisfy individual needs.

It also became apparent my responsibility did not stop in my classroom, but a close team work approach on philosophy and techniques, with the entire staff was vital to the education of these children.

One new focus of my responsibility involved in connection with home visits. When visiting homes and viewing garbage-laden streets, the need for arousing community action became apparent.

Today I do not hesitate to write letters to the newspaper, speak to political agencies and arouse personal friends to obtain outside support in an attempt to correct prevailing ills. Though not largely successful, these attempts have helped bring community volunteers into our school. What then, has been done for these children through The Ford Program? First, the needs of these children have been brought to the attention of the entire school district. The community at Lacey Park for the first time is aware that somebody cares. The school program has brought social workers, health agency, and school personnel into the homes.

The parents for the first time have been encouraged and welcomed into the school. It is evident that the feeling of the community toward the school is a positive one. Through parent-meetings the community itself has been shown ways to organize for some degree of self help.

Educationally our children have had the advantage of a dedicated staff, using all means available to improve educational techniques and convince administration within the school district of the need for a follow through program.

It is true this is just a beginning, yet after our last in-service program we see hopeful signs that the entire school community is aware that something exciting is happening at Lacey Park, and many teachers have noticed their willingness to try new techniques in their schools. By sharing what we have learned we see distinct hope for a break through, throughout our entire school district.

Mrs. Beverly Schwartz

March 10, 1969

Comments concerning The Ford Foundation Program
for teaching the culturally deprived.

Dear Mr. Kershner:

It is my earnest belief that this type of flexible, varied program could mean the difference between saving or losing these children educationally speaking. I feel that the children make as much or more progress -- certainly that progress is more meaningful -- than in a previous conventional type classroom set-up. They seem to acquire an understanding of "why reading?" and therefore read with more expression. They also seem to possess more interest in finding out through reading.

The freedom of movement about the classroom and from room to room throughout the day makes it possible for the children to give more concentrated attention during those short periods when it is required.

The interaction encouraged by this program is a tremendous aid in the social development of the children.

Release from the pressures of getting the children to a certain point by a certain time enables the teacher more time to plan meaningful activities which the children do not view as "hard work" but rather "fun activities."

Such a relaxed atmosphere can only mean more pleasure and less pain for all concerned. However, if we are to anticipate any degree of success in the future with this type of program it will have to be afforded more stability in the way of directorship than we have heretofore been accorded. The constant turnover in the position of leadership has given rise to frustration and insecurity among the teachers. Here lies my chief criticism and one that I believe to be well founded.

Doris C. Hays

February 28, 1969

Dear Mr. Kershner:

On the plus side--

1. Yes, pre-school experience is good for the disadvantaged child. It widens his horizons and makes formal schooling easier.

2. The parents profit from an informal introduction to the school situation. A good pre-school teacher softens the image of the threatening "school marm."

3. Teachers gain insight into the needs of the disadvantaged child, his problems, his parent's problems.

I'm all for it, but!

On the minus side--

1. There was too much change in personnel from the top down.

2. There was too much change in techniques and philosophies.

3. There was too little use of experienced knowledgeable people with practical experience and too much reliance on ivory tower theory.

May I suggest if you plan to introduce pre-school education elsewhere that:

1. You spend the first three to six months with our children so that your directors and teachers can develop a curriculum and philosophy, and set up goals before the class goes into operation.

2. Work towards a long-term contract with employees so that these already disorganized children don't have to make constant readjustments to new authority figures.

Sincerely,

Anne Cramer

August 15, 1969

Dear Mr. Kershner:

1. For me The Ford Project has afforded me the opportunity to change my mode of teaching, which is more suited to the needs of my children. I no longer have to teach in a way that is uninteresting or of no educational value to my children.

2. It has brought to us over the two years that I have been involved, people of great assistance to share their knowledge. These people have been most helpful and understanding. I think we have all learned a great deal from each other and from the children.

3. The testing processes have been changed, which are better suited to our children. I think we will be better able to see just what has been accomplished with our children.

4. Most useful and gratifying to me was the workshop that it provided us. It brought in other teachers from other schools who will have our children this coming year. These teachers just through their attendance, and willingness to change, will be more able to cope with the learning problems our children pose and the understanding they must have to succeed. I think our children will now have a better chance at meeting success and learning how to cope with failure when they do meet it.

For the children:

1. It has given the children the benefit of Pre-school, Nursery, and Kindergarten. It has in a way taken over the job of the home, which our children were not getting. They are more able now to meet school situations than they were before this all happened.

2. It has opened the door to better parent relations. This has helped the younger children who are not yet of school age, so that they will be better prepared when they do come to school. It has helped the parents better understand what the school is trying to do for their children. It has changed the attitude of the parents because to most of them their schooling did nothing for them and had been a bad experience of failure.

3. It has given the parents and the children a better self-image.

4. The children have been given more chances for success and taught better ways of meeting failure and correcting it than just giving up.

5. It has made the children more interested in school than ever before. We see this in fewer absentees and we are hopeful that if this record is continued, we will see fewer drop-outs in the future.

6. With the non-graded system, children who would otherwise have failed, continue on wherever they are and are not met with the problems at home, in the neighborhood and in the school of being retained.

7. Again I must mention, because to me it is most important both to me and the children, the fact that the other teachers were brought in and shown the necessary ways to deal with and understand and love our children. If this is done teaching becomes a JOY, not a JOB and the children benefit most.

May I say thank you again for letting me be a part of this project.

Mrs. Mary Hudders

APPENDIX F

URBAN SCHOOL

WORKSHOP REPORT

Report to: Dr. McDonald, Superintendent
Mr. Vaughan, Director of Pupil Services
Mr. Walker, Elementary Supervisor

From: Kullie Mellor, Preschool and Primary Education Project Administrator

Re: Final workshop of the Preschool and Primary Education Project

Under the guidance of Dr. Castaldi and Dr. Seager and provided by financial support of The Ford Foundation under the auspices of the Bureau of Research, Department of Education, the final workshop of the Preschool and Primary Education Project was held at Lacey Park School August 4, 5, and 6, 1969.

The purposes of the workshop were:

(1) to review achievements of the Preschool and Primary Education Project and to project the significance of the findings for future years;
(2) to inform the administration and staff who have elementary school-aged children from Lacey Park outside of the Park about the characteristics and special educational needs of Lacey Park children;
(3) to provide opportunity for Centennial staff to understand themselves better in relation to Lacey Park children.

Heretofore, the project staff had not concerned itself directly with the educational program of Lacey Park children beyond the Lacey Park School. At this time, however, besides all of the Lacey Park School staff, teachers of Lacey Park children came representing Longstreth, Shelmire and McDonald, or other schools serving elementary school-aged children from Lacey Park. Johnsville School was not represented. Mr. Dekutoski, 6th grade principal, represented his teachers of Lacey Park children.

Prior to the workshop, it had seemed to me and to others that there was a definite lack of communication between Lacey Park teachers and the teachers of the so-called "feeder" schools. Lacey Park teachers had often expressed fears about the educational future of their students if the students were expected to perform on an equal basis with children from middle-class neighborhoods. At the same time, teachers of the "feeder" schools had not benefited from the consultation that had been provided by The Ford Foundation to Lacey Park staff during the past six years. As the culminating point of the project, the workshop was planned to share understanding of the special needs of Lacey Park children and to promote a new awareness of ourselves as we accept the challenge of educating these young people.

There is some risk in planning a workshop which brings strangers face-to-face with the expectation that they will be candid and willing to examine their attitudes toward the poor. My fears were unnecessary. Everyone who participated made a frank and diligent effort to explore the issues and their own feelings about the poor.

To get the full flavor of the environment from which the Lacey Park child comes each day, teachers were paired in teams of two and were asked to spend Monday morning on foot exploring the slum neighborhood. An appointment had been made for each teacher to visit at least one child in his next year's class. This afforded each team of teachers the opportunity to visit at least two homes that morning. Some of the staff visited in the Community Center. Dr. Castaldi and Mrs. Corson (Longstreth) even called on the owner of the Park, Dr. Gabriel Elias, a prominent element in the lives of any resident in this slum area.

The morning's assignment stimulated the workshop participants to a new level of awareness of the crippling effects that the physical environment must have on the families who reside in the Park. There was a determination on the part of the workshop enrollees to act as private citizens to influence the public governmental bodies in power to improve the housing conditions. There was general consensus that a group of teachers, identified as such, would have more power in an effort to promote change than single individuals. Some of the enrollees felt that any community action effort should include residents of the Park, since the solutions to the housing problems in many respects depend upon the local residents. In the process of school staff becoming involved in the solution of a community problem, it was felt that the attitude of the families toward the school would improve. It is presumed that parents' positive attitude toward school supports the child as a learner.

Considerable time was spent reviewing the present educational program of Lacey Park School which provides time for a daily free selection period, and is a non-graded, team teaching organization with heavy involvement of volunteers and strong emphasis on a varied parent education program. The relative merits of the characteristics of the program were discussed. It was clear to all that Lacey Park School staff certainly had not achieved the ideal educational program for disadvantaged children; however, through the six years of the project, we have learned a great deal about the special needs of our children, have tried and discarded some ideas, and have now determined the direction that we will take in the future along the same lines of our present organization.

Some of the participants felt that the program developed at Lacey Park would be just as appropriate for middle class children as for the disadvantaged.

Part of the workshop was devoted to small group discussion of the specific children that the teachers would be receiving in September, 1969.

Recommendations and suggestions were made by the workshop participants in an effort to improve the educational program of poor children in our district; not in all cases was there total consensus, since some of the recommendation came out of the small group meetings rather than from the total group.

The recommendation and suggestions developed at the workshop are as follows.

1. The teachers present at the workshop will take responsibility for informing other teachers in their building about the content of the workshop.

2. Due to the presence of a discriminatory attitude toward children from Lacey Park among some of Centennial staff, an in-service program similar to this workshop is recommended for all teachers of Lacey Park children. (This recommendation will be forwarded to Mr. Rittenmeyer, chairman of the in-service committee.)

3. Visits to the homes of all Lacey Park elementary children should be made by their teachers each September to introduce themselves and to become acquainted with the children's families and home situation. (The group decided that this should not be a mandatory requirement but a policy encouraged by the administration).

4. In cases where parents cannot come to school for parent-teacher conference, the teacher should visit the home by appointment.

5. Curriculum offerings for the Lacey Park children need to be modified to relate more appropriately to the needs and abilities of the children beyond Lacey Park School; the curriculum standards for the middle-class schools are not appropriate for children of disadvantaged homes.

6. An organization of space and schedule should allow the Lacey Park children more opportunities for movement, freedom to select activities, many enriching experiences away from the school, etc., beyond Lacey Park School.

7. The report card presently used should be re-evaluated and re-worked particularly in the light of the sense of failure created by the present reporting system for so many Lacey Park children. (Participants were urged to forward their ideas for a new report card to Mr. Fliszar, chairman of report card evaluation committee.)

8. Along the same line, we should spend some time studying the effects on elementary teachers of the pressure from the secondary level. The pressure on each successive grade level was also an area of concern for study.

9. At the invitation of the Longstreth teachers in an effort to inform Lacey Park teachers about the program beyond the primary level, Lacey Park teachers should visit Longstreth School while in session.

10. Since the distribution of different colored poker chips for lunch sets the free lunch children so clearly apart from the children who pay for their lunch, new methods need to be devised for making the free lunch available.

11. Conferences at the beginning of every school year should be held between grade level teachers. Teaming would be a good mechanism for implementing this recommendation.

12. Teachers should take advantage of the freedom given each individual in this district to be innovative and creative in developing with adequate justification program and curriculum offerings. (It was generally agreed that teacher initiated programs are most apt to be successful.)

The workshop closed on a happy note when Keith M. Kershner, the Project Coordinator from the State Department of Education, revealed there was a significant difference in the pre-test (Sept. 1968) and post-test (May 1969) scores of the children at all levels in Lacey Park School on six different measures.

One of the most gratifying features of the workshop, to me, was the teachers' commitment to change in the interest of providing the best kind of educational program for children. Their willingness to examine their own attitudes in relation to their children was remarkably open and sincere. Also, it was apparent they saw themselves as a cooperative group who want to continue to work together, not at odds with one another, in an effort to find mutually acceptable solutions to the problems they face. It was clear to me that these teachers consider education to be a process which above all else needs humanizing.

APPENDIX G

TEST-RETEST CORRELATIONS

TABLE 15

TEST-RETEST CORRELATIONS
CONDUCTED AT THE URBAN SCHOOL

Measure	n	Test Mean	Retest Mean	r
1. CTMM Total	28	102.89	95.82	.86
2. MRT Total	15	68.40	69.60	.89
3. MAT	10			
Subtest 1		1.74	1.85	.85
Subtest 2		1.76	1.71	.77
Subtest 3		1.59	1.68	.52
Subtest 4		1.71	1.65	.72
4. SMSG Total	29	89.10	92.41	.66
5. OLS Total	28	12.41	13.76	.52

In all cases the intertest interval was two weeks. Testing samples were drawn randomly from the program testing lists. Product moment correlations were performed. Since there is no total score for the MAT, subtest results are reported.

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